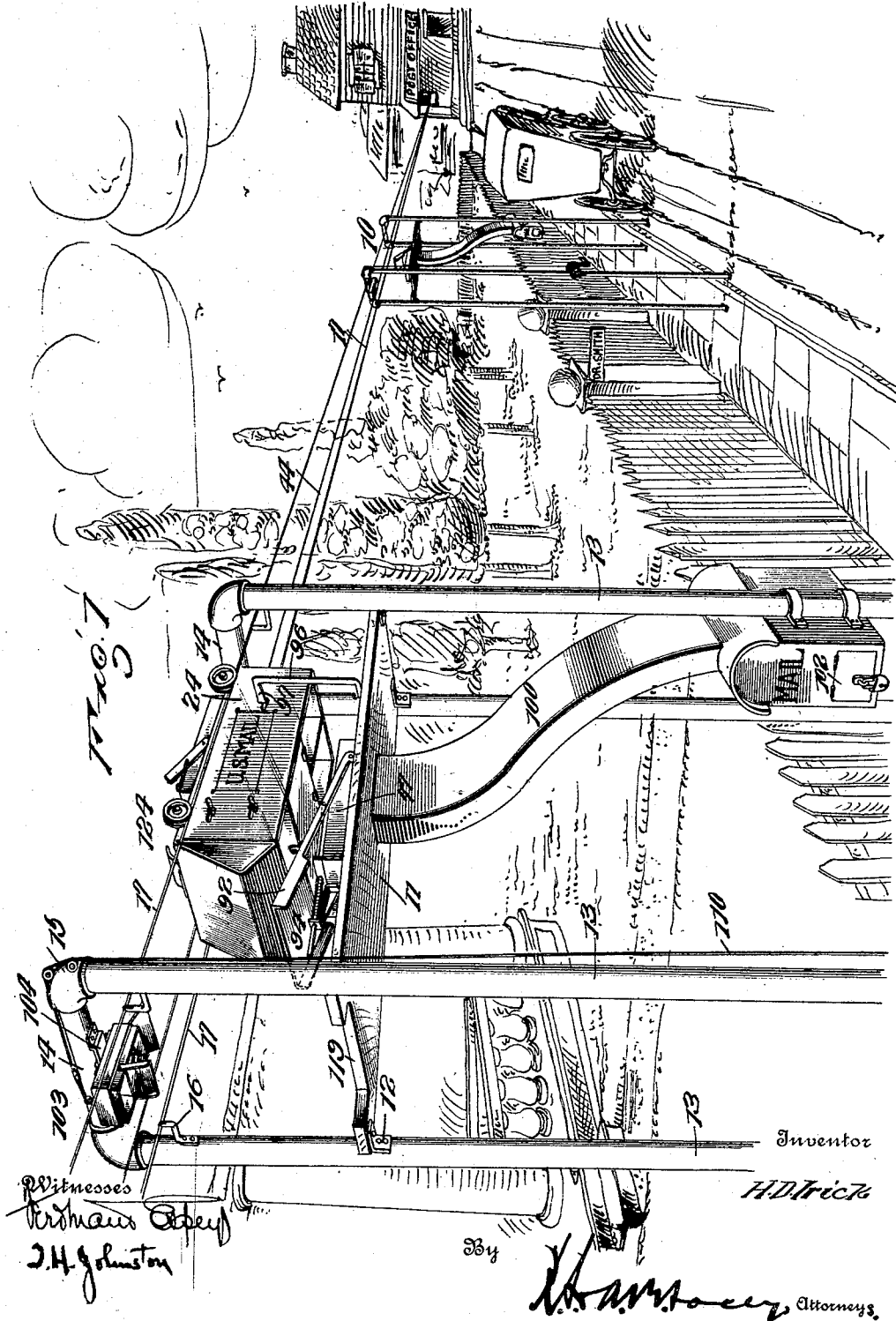


H. D. TRICK.
AUTOMATIC RECEIVING AND DELIVERING APPARATUS.
APPLICATION FILED DEC. 4, 1912.

1,059,540.

Patented Apr. 22, 1913.

4 SHEETS-SHEET 1.

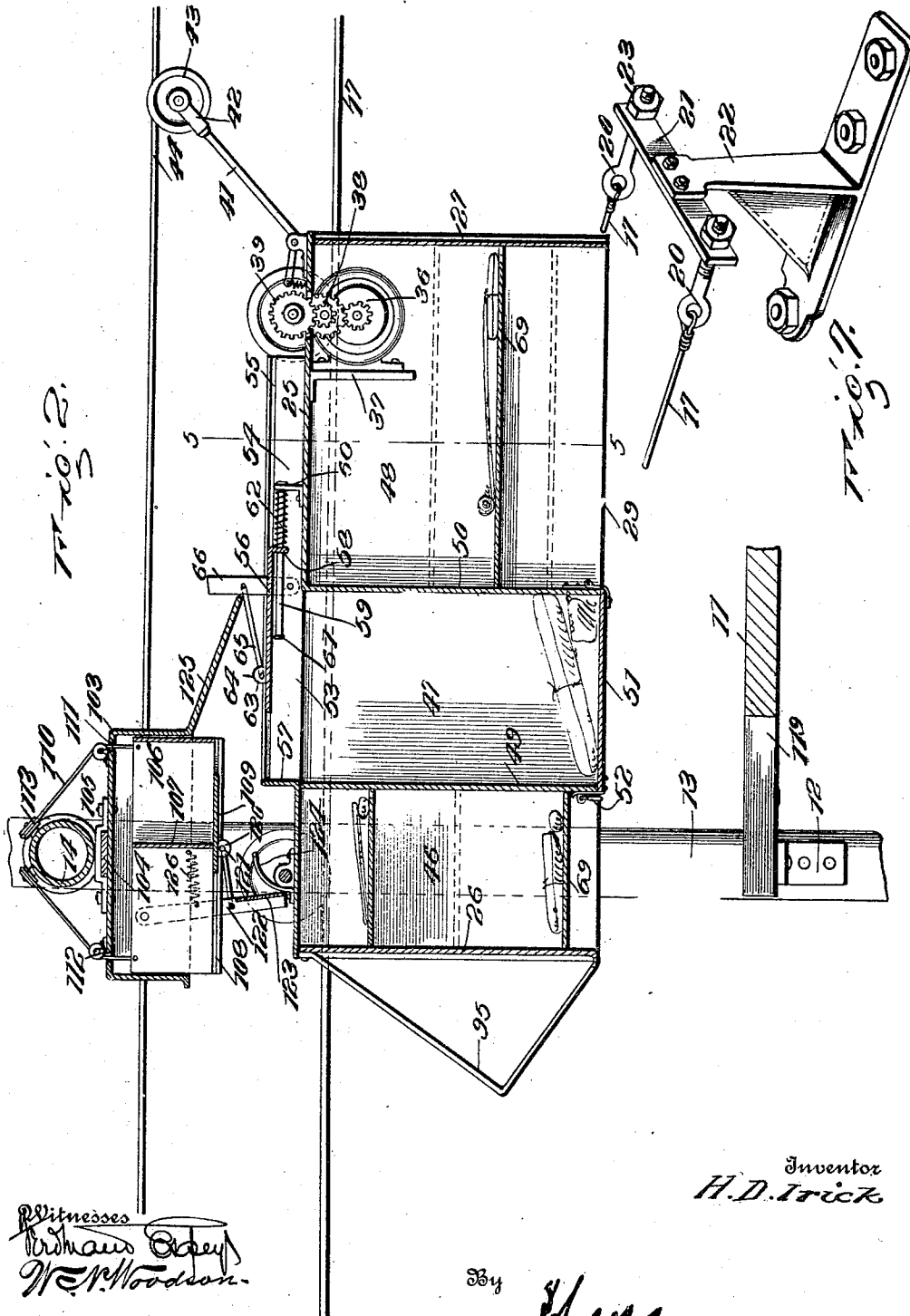


H. D. IRICK.
 AUTOMATIC RECEIVING AND DELIVERING APPARATUS.
 APPLICATION FILED DEC. 4, 1912.

1,059,540.

Patented Apr. 22, 1913.

4 SHEETS—SHEET 2.



Inventor
 H. D. Irick

By

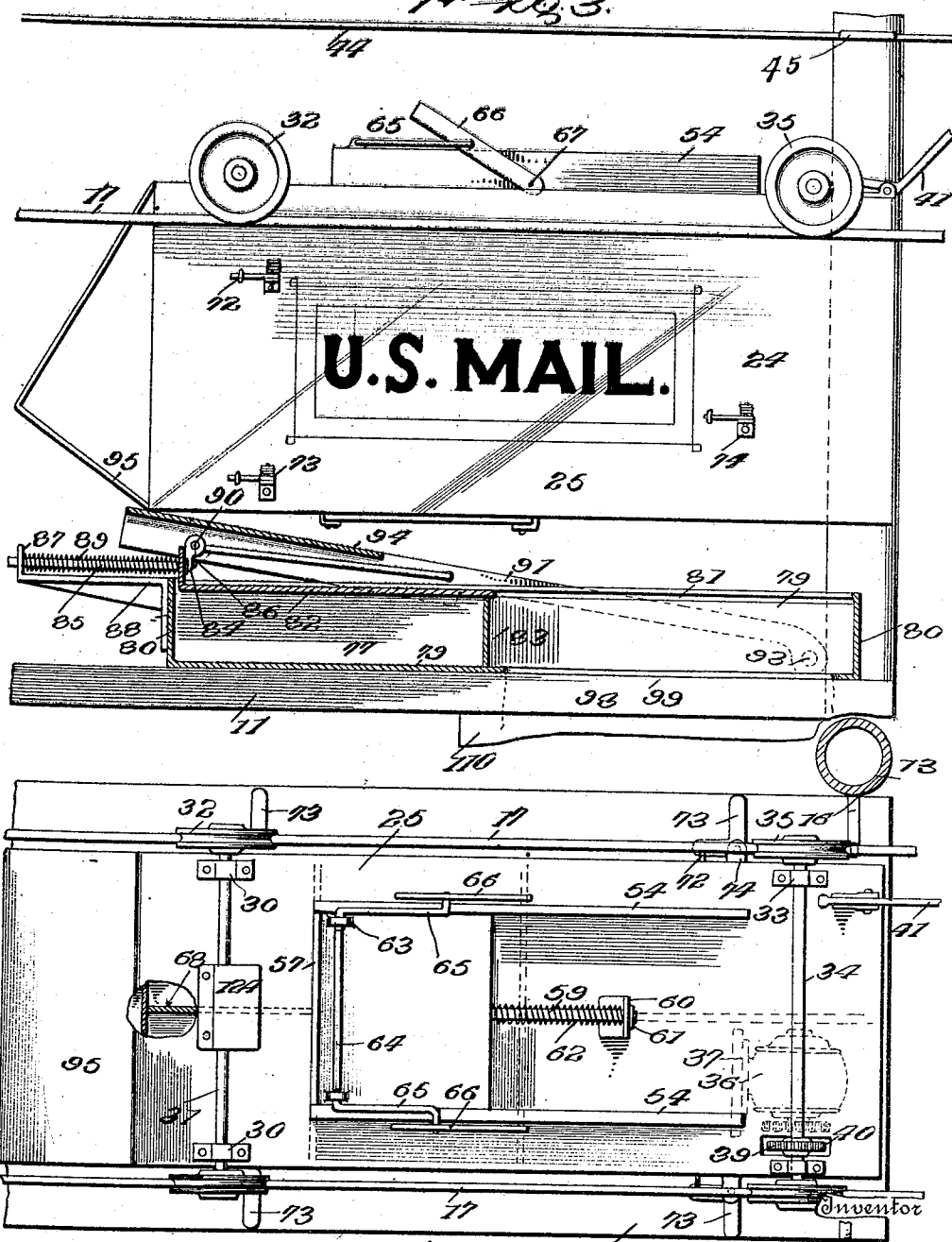
H. A. Irick
 Attorneys.

H. D. IRICK.
 AUTOMATIC RECEIVING AND DELIVERING APPARATUS.
 APPLICATION FILED DEC. 4, 1912.

1,059,540.

Patented Apr. 22, 1913.

4 SHEETS-SHEET 3.



Witnesses
 Wm. A. O'Neil
 W. P. Woodson.

Fig. 4.

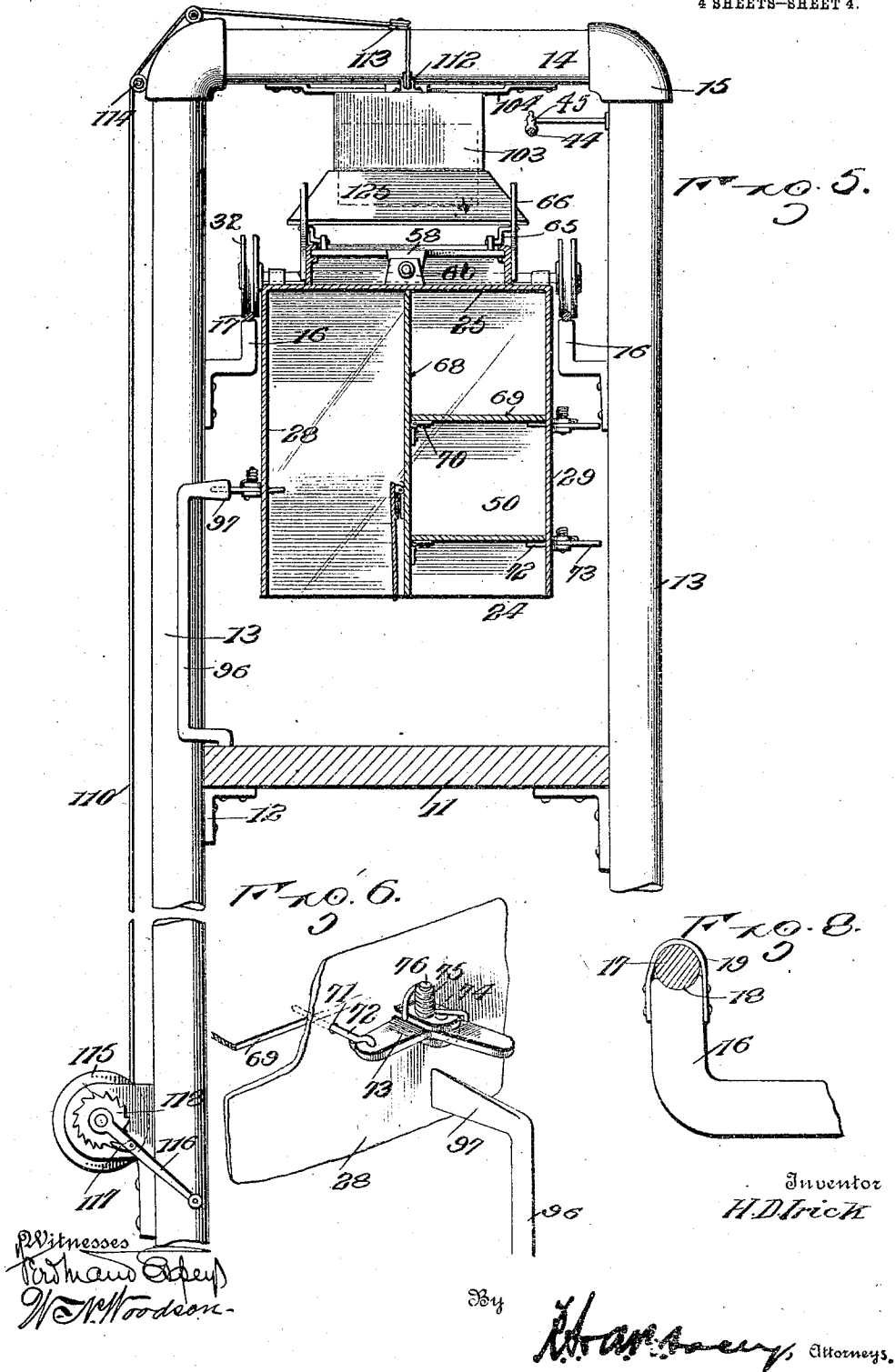
By

H. D. Irick
 H. A. M. Taylor, Attorneys.

AUTOMATIC RECEIVING AND DELIVERING APPARATUS.

Patented Apr. 22, 1913.

1,059,540.



UNITED STATES PATENT OFFICE.

HARRY D. IRICK, OF EL DARA, ILLINOIS.

AUTOMATIC RECEIVING AND DELIVERING APPARATUS.

1,059,540.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed December 4, 1912. Serial No. 735,001.

To all whom it may concern:

Be it known that I, HARRY D. IRICK, citizen of the United States, residing at El Dara, in the county of Pike and State of Illinois, have invented certain new and useful Improvements in Automatic Receiving and Delivering Apparatus, of which the following is a specification.

My invention relates to new and useful improvements in distributing and collecting systems and in the necessary apparatus therefor, and the object of my invention is to provide a system of the character described which, while it may be used for distributing or collecting parcels, bundles or the like in stores or factories, or for cash carriers in stores, is particularly adapted for use in the delivering and collection of mail either in cities or in rural districts.

With this principal object in view, a further object of my invention is to provide a novel and improved form of overhead track which may be strung from the central station or post-office over the territory to be covered and back to the central station and upon which the delivery and collecting car may travel. As it is my intention to provide a self-propelled car for delivering and collecting the mail, it will of course be understood that the car will travel in but one direction over the track and that the track therefore must be of the continuous loop type. This track may be run through the city or country along one side of the road and back along the other side, this being repeated upon all roads along which mail is to be delivered or collected but it may be run along one side only, persons living on the other side of the street having mail boxes located at the track and across the street from their dwellings.

A further object of my invention is to so support the wires which form the track rails that they may be readily tensioned from one end of the track or at suitable intervals, depending upon the length of the track.

A further object of my invention is to provide mail receiving and mail delivering devices, both of which will be positioned adjacent each house to which the mail is to be delivered and both of which are normally closed and to provide in connection with these devices a mail-carrying device or car which in effect constitutes the delivery and collecting apparatus of the system, this car being arranged to open the mail receiving

device at each house and deposit the particular mail intended for that house therein and to further open the mail delivery device at each house and to receive any mail matter contained therein.

A further object of my invention is to provide a car of the self-propelled type provided with a plurality of chambers or compartments, one of which holds the mail collected during the passage of the car about its route, while the others hold the mail to be delivered, the car being provided with as many of these latter compartments as there are houses upon the route.

A further object of my invention is to so construct the car and compartments therein that the mail to be delivered may be automatically discharged from its compartment at the proper time and place, that is, when the delivery car is directly over the mail receiving device of the house to which the mail in that particular compartment is to be delivered.

A further object of my invention is to provide means at each station arranged to co-act with means carried by the car for discharging the contents of a predetermined mail holding compartment of the car.

A further object of my invention is to so arrange the closure of the mail receiving device that it will automatically open by the passage of the car and at the exact moment that the mail delivery mechanism of the car is operated to properly discharge the mail in the device, the closure being further so arranged that when disengaged from the car it will close automatically to protect the mail delivered from rain or snow.

A further object of my invention is to provide the mail delivering devices each with a closure and the mail receiving compartment of the car with a closure, these closures being so arranged in connection with tripping plates or shields carried by the mail delivering devices and the car that during the passage of the car beneath the mail delivering device, both closures are opened at the moment when the mail receiving compartment of the car is directly beneath the mail delivering device.

A further object of my invention is to so arrange the closures of the mail delivering device and of the mail receiving compartment of the car that they will be automatically closed upon the disengagement of the car from the delivery device. And a still

further object of my invention is to so construct the delivery device that the mail holding portion thereof may be readily lowered to permit the placing of mail therein and then again raised and locked in operative position to discharge its mail into the car upon the passage of the latter.

With these and other objects in view, my invention will be more fully described, illustrated in the accompanying drawings, and then specifically pointed out in the claims which are attached to and form a part of this application.

In the drawings: Figure 1 is a perspective view of a portion of my mail distributing and collecting system, showing a delivery car about to discharge certain of its mail at one of the stations of the system; Fig. 2 is a vertical, central longitudinal sectional view of the car and of one of the mail delivering devices by which mail to be collected is discharged into the car, the closures of the car and delivery device being both partially open; Fig. 3 is a side elevation of the delivery car discharging mail into one of the mail receiving devices, the latter being shown in section with its closure in open position to receive the mail; Fig. 4 is a top plan view of the car, the track supporting poles being shown in section to avoid obstructing the view of portions of the car; Fig. 5 is a rear elevation of one of the mail delivering devices, the car being shown in section on the line 5—5 of Fig. 2; Fig. 6 is a fragmentary perspective view of the car, showing one of the trip levers by means of which the mail supporting shelves of the car are held in active position; Fig. 7 is a fragmentary perspective view, showing one method by means of which the wires forming the car track may be properly tensioned; Fig. 8 is a detail elevational view, showing the method of mounting the track forming wires upon their supports.

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

I have illustrated the employment of my system in distributing and collecting mail in a rural district and the preferred embodiment of the various features of the system, best illustrated as a whole in Fig. 1 of the drawings, includes a combined delivery and receiving station located at each house to which mail is to be delivered or from which mail is to be collected, a continuous overhead track leading from the post-office or central station to the first of these stations, from this latter station to the next and so on around the entire route, a mail receiving device and a mail delivering device located at each station and a self-propelled delivery and collecting car supported upon the track and movable thereon.

More particularly, each station, designated as a whole by the numeral 10, includes an elevated platform 11 supported at its corners by brackets 12 carried by spaced posts or supporting standards 13 arranged in spaced pairs, the upper-ends of each pair being braced and held in proper relation to each other by braces 14. These standards and braces may be of any suitable design and material, but are preferably formed of metallic piping, the braces being connected to the standards at their ends by elbows 15, while the lower ends of the standards are firmly embedded in the ground or otherwise secured to rigidly support the platform.

Extending inwardly and upwardly from each standard and adjacent its upper end, is an L-shaped track supporting arm or bracket 16 and secured to the upper ends of these brackets are the wires forming the track rails 17. As best illustrated in Fig. 8 of the drawings, the upper ends of these arms are notched to provide seats 18 for the track wires which are held in their seats in such a manner as to be movable longitudinally therethrough by binding bands 19.

The ends of the track wires or rails 17 at the central station are connected to eye-bolts 20, the threaded shanks of which are passed through and adjustably secured to arms 21 of a terminal bracket 22 by clamp nuts 23. By this means, all slack in the track wires, due to expansion by changes in temperature or continued strain on the wires, may be taken up and the wires maintained at a suitable tension to properly support the car. The car adapted for movement upon the above described track, and which as a whole is designated by the numeral 24, includes a substantially rectangular shaped body member having a top wall 25, front and back walls 26 and 27 and side walls 28 and 29, this body being preferably formed of metal of as light construction as is consistent with the strains and wear to which it will be subjected.

Carried by the forward portion of the top wall 25 are transversely spaced apart bearings 30 in which is journaled an axle 31, the ends of which extend beyond the sides of the car and carry grooved wheels 32 which engage the track 17. Similar bearings 33 mounted upon the rear portion of the top of the car form journals for a driven axle 34 upon which are keyed wheels 35, similar in construction to the wheels 32 and also engaging the track rail.

As previously pointed out, this car is to be of the self-propelled type and it will be understood that I do not wish in any way to limit myself to any particular form of propelling means as spring motors, explosive engines or electric motors may be employed with equal facility. I prefer however, to provide an electric drive for the car and for

this reason I have illustrated the car as provided with an electric motor 36 supported within the rear portion of the body of the car and at the top thereof by any suitable bracket 37 and operatively connected by a train of gears 38 with a gear 39 which is keyed upon the drive shaft 34, the top of the car body being cut-away as at 40 to permit the mounting of this latter gear.

A spring held trolley pole 41 of conventional type is mounted upon the rear end of the car and is electrically connected to the motor in the usual manner, the free end of this pole being provided with a trolley harp 42 carrying a trolley wheel 43. Power is supplied to the car by means of a power wire 44 which is supported by the posts 13 through the medium of any suitable form of insulators 45, this wire being so positioned as to be engaged at all times by the trolley wheel 43.

The body of the car is interiorly divided into three main compartments 46, 47 and 48 by means of a pair of spaced apart transversely extending partition walls 49 and 50, the front and rear compartments 46 and 48 being mail holding compartments as will be hereinafter explained, while the compartment 47 is the one in which the collected mail is held. For this reason, the compartment 47 is provided at its lower end with a hinged closure 51 having a lock 52 by means of which it may be secured in closed position. The top wall of the car body is provided centrally of this chamber 47 with an opening 53 through which the mail being collected may pass to the chamber, and extending vertically upward along each side of this opening and projecting considerably to the rear thereof, are guides 54, the upper edge portions of which are bent outwardly and then inwardly to form channels 55 in which the edges of a sliding door or closure 56 engage. A stop wall 57 also extends upwardly from the top wall of the car body and connects the forward ends of the guides 54 to limit the closing movement of the door 56. This door is provided at its rear end with an integrally formed downwardly extending ear 58 and a rod 59 is movable through this ear, one end of the rod being mounted in a bracket 60 carried by the top wall 25 of the car body and located between the guides 54. The opposite end of the rod is headed as shown at 61 to assist in limiting the movement of the door 56 and said door is normally held in closed position by a coiled spring 62 positioned about the rod and bearing by its ends against the bracket 60 and ear 58 of the door.

The door 56 is provided adjacent its forward end with one or more upwardly directed perforated ears 63 through which is passed a rod 64, the end portions of which are bent rearwardly at right angles

to the body portion as shown at 65 and pivotally connected to the intermediate portions of levers 66 which in turn are pivoted at their lower ends as shown at 67, to the guides 54. As best illustrated in Figs. 2 and 3 of the drawings, the arms 65 of the rod and the levers 66 are so proportioned that under normal conditions, with the door in closed position, the upper ends of the levers are directed forwardly at an angle. It will therefore be apparent that during the passage of the car along the track, this door may be automatically opened at any predetermined point by the proper positioning of an obstruction or trip in the path of the upper ends of the levers 66, the engagement of the levers by such a device, combined with the forward movement of the car, acting to swing the levers rearwardly and open the door. It will also be apparent that as soon as the levers have passed the obstruction or trip, the spring 62 will immediately close the door and return the levers to their forwardly inclined position. Such a trip mechanism will be hereinafter fully explained in connection with a mail delivering device.

As previously noted, the forward and rear compartments 46 and 48 of the car body are intended to hold the mail which is to be delivered by the car during its passage over the route and by referring to Fig. 5 of the drawings, it will be noted that each of these compartments is divided by a longitudinally extending partition wall 68, preferably positioned centrally of the car body. A plurality of shelves 69 are hingedly mounted by their inner edges as shown at 70 to the partition walls 68, said shelves being arranged upon both sides of the partition walls as shown and so proportioned that when swung to horizontal position their outer edges engage against the inner faces of the side walls of the car body.

Any desired number of shelves may be provided and the shelves may be positioned at any distance from each other and in any desired manner within the car body with the exception that there must be as many shelves as there are stations along the route and that no two shelves upon the same side of the car body be at the same height above the bottom of the car, the reason for these restrictions being such as will be readily understood when certain other features of construction have been explained.

The side walls 28 and 29 of the car body are provided with perforations 71 formed one immediately below each of the shelves when the latter are in horizontal position and pins 72 are movable through these perforations to extend beneath the shelves and support the same in elevated position. Each of these pins is pivoted by its outer end to one arm of a bell crank lever 73 which in

turn is pivotally supported between spaced ears 74 extending from the side walls 28 and 29 and the free arm of which extends at right angles to the car body, these levers being so mounted that upon the rearward swinging of this free arm, the pins 72 will be withdrawn a sufficient distance to disengage them from the shelves and permit the latter to fall by gravity and discharge their contents. These levers are normally maintained in active position to hold the pins in place by coiled springs 75, the coiled portions of which are mounted about a stud 76 extending from one of the ears 74 and the free ends of which engage one against the forward edge of the stud carrying ear and the other against the rear edge of the free arm of the lever, this construction being clearly illustrated in Fig. 6 of the drawings.

From the above description it will be apparent that in order to drop any one of the shelves to discharge its contents, it is only necessary that provision be made for swinging its bell crank lever 73 at the proper time and inasmuch as no two of these levers upon the same side of the car body will be at the same level, it will be apparent that a suitable obstruction may be positioned at each station in such a manner as to engage a predetermined lever and so drop a predetermined shelf to discharge its contents at that station.

It will, however, of course be apparent that in order to discharge mail matter supported upon one of the upper shelves, the mail matter carried by all of the shelves below the same, in the same compartment, must have been previously discharged, that is, the shelves should, in all cases, be discharged in order, commencing at the bottom and going to the top. For this reason, the mail to be delivered will be placed in the car in the order in which the houses at which it is to be delivered occupy along the route.

Having thus described the chief features of the mail delivery and collecting car and the main details of its operation, I will now describe the mail receiving and delivering devices which are located at the stations and which are operated by the passage of the car and which in turn operate the door 82 of the car and the trip levers 73 thereof.

Each of the mail receiving devices comprises a substantially rectangular shaped body member 77 including a bottom 78 resting upon the platform 11 and vertically extending side walls 79 and end walls 80, the side walls and one of the end walls being provided adjacent their upper ends with extending side walls 79 and end walls 80, adapted to receive the edges of a sliding door or closure 82. This body member 77 is divided transversely by a centrally posi-

tioned partition wall 83 and the door 82 is so proportioned that in closed position it completely closes that part of the device between the side walls, the rear end wall and the partition wall, while in open position it occupies the place shown in Fig. 3 of the drawings. The forward end of the door is provided with an upwardly directed perforated ear 84 and a rod 85 extends through this ear and is secured thereto by clamping nuts 86. The free end of this rod is movable through a guide arm 87 of a bracket 88 carried by the front end of the body member 77 and a coiled expansion spring 89 is mounted about the rod and bears by its ends against the guide arm 87 and the ear 84 of the door 82 to normally hold the latter in closed position.

A rod 90 is passed through further perforations in the ear 84 of the cover and its ends are bent rearwardly at right angles to its body portion and passed through perforations formed in the side arms 91 of a door operating lever 92. This operating lever includes the side arms 91 which are pivoted by their free ends to the sides of the casing or body member 77 as shown at 93 and an integrally formed connecting plate or web 94 which extends transversely across the mail receiving device and which, under normal conditions, that is when the door is closed, extends in nearly a vertical position, its upper end being slightly inclined forwardly.

The mail receiving device at each station is located upon the platform in a position depending upon the position within the car of the shelf which carries the mail for that station. For instance, if the shelf is mounted at the right hand side of the car, the mail receiving device is mounted at the right hand side of the platform, while if the shelf is mounted at the left hand side of the car, the mail receiving device is mounted at the left hand side of the platform, the device in either case being so located that the mail dropping from a predetermined shelf in the car will fall into the device when its door is opened.

In order to insure the opening of the door at the proper moment, the forward end of the car is provided with a forwardly and upwardly directed trip plate 95, the upper end of which is curved inwardly and secured to the upper portion of the car. The inclined lower face of this trip plate, upon the approach of the car, engages against the connecting web 94 of the door operating lever and the passage of the car over the device forces this lever downwardly to open the door, the door being then held open by the car until the latter has passed completely over the same.

In order to provide means for releasing one of the car shelves to cause the discharge

of any mail for the station, at the proper time, I have provided an upwardly directed standard 96 having an inwardly directed terminal 97 at its upper end which extends in the path of one of the bell crank levers of the car and which therefore releases the shelf ordinarily supported by the pin carried by said lever. It will of course be understood that the position of the standard 96 and its height may be so regulated at each station as to cause it to engage a predetermined lever upon the car and release a predetermined shelf. It will therefore be apparent that if the mail is arranged in the car in such a manner that the mail to be left at the first houses is positioned on the lower shelves and the mail to be left at the last houses positioned on the upper shelves, a proper positioning of the trip standards 96 at the various stations will absolutely provide means for releasing the shelves at the proper time to discharge their contents in the proper mail receiving devices. It will therefore be understood that I have provided means for insuring the simultaneous opening of the mail receiving device and releasing of a predetermined shelf in the car to discharge the mail supported thereon into the mail receiving device.

It will of course be apparent that in a system of this character, the tracks and platform must be supported a sufficient distance above the ground to be out of the way and for this reason, in order to provide for the more ready obtaining of the mail dropped into the mail receiving devices at the stations, I provide each of the platforms 11 with an opening 98 which registers with a corresponding opening 99 formed in the bottom of the mail receiving device. A mail chute 100 leads from this opening to an opening formed in the top of a mail box 101 supported upon one of the posts or standards 13 at a convenient height above the ground and provided with a locked closure 102. By this means any mail deposited in one of the mail receiving devices immediately passes through the mail chute and into its box from which it may be at any time taken by the person to whom the box belongs, it, in the meantime, being protected from others by the locking of the mail box door.

Each of the mail delivering devices, by means of which any mail to be sent by persons along the route may be delivered to the car, consists of a substantially rectangular shaped housing 103 closed at its upper end and open at its lower end, as best shown in Fig. 2 of the drawings. This housing is supported directly beneath the forward brace member 14 of the station by any suitable means such as a metal strip 104 secured by its ends to the lower face of the brace and a second strip 105 passed between the central

portion of the first strip and the brace and secured by its ends to the top of the housing, these strips being preferably secured to each other at their point of crossing.

This mail delivering device further comprises a substantially rectangular shaped body member proper 106 proportioned to seat within the housing 103, as shown in Fig. 2 of the drawings. This body member or casing 106 is open at its top and bottom and at its forward end and provided centrally with a transversely extending partition wall 107. The lower edges of the side walls and of the rear end wall are channeled to form guides 108 for the edges of a sliding door or closure 109 which normally closes the bottom of the casing at the rear of the partition wall to form a mail receptacle.

Ropes or cables 110 are secured by their ends to the opposite ends of the casing and are passed upwardly through openings 111 formed in the top of the housing, about pulleys 112 mounted upon the top of the housing and over pulleys 113 and 114 carried by one of the elbows 15 connecting one of the standards and the brace and are then passed downwardly and wound about a winding drum 115 which is operated by a hand crank 116 carrying a pawl 117 for engagement with a fixed ratchet wheel 118.

The platform 11 is cut-away as at 119 immediately below the mail delivering device and it will therefore be apparent that by means of the winding drum or reel 115 and cables 110, the main body or casing 106 of the mail delivering device may be readily lowered to the ground to permit a person having mail to be collected to place the same in the casing which is then raised into position within the housing, as shown in Fig. 2 of the drawings, being held against return movement by the engaging of the pawl 117 with the ratchet wheel.

In order to provide means for opening the door 109 of the mail delivering device at the proper time, I have provided the door adjacent its rear end with a perforated ear 120 through which is passed a rod 121, the end portions of which are bent at right angles to the body portion and pivotally secured to the intermediate portions of lever arms 122 which are pivoted by their upper ends to the sides of the casing or body 106 and which are connected at their lower ends by an integrally formed web or trip plate 123. The car is provided at its upper forward end with an upwardly and rearwardly directed shield or trip plate 124 which extends rearwardly over the forward axle in position to engage the trip plate 123 during the passage of the car beneath the mail delivering device and so open the door 109 at the proper time.

In order to provide for a simultaneous opening of the door 56 of the car with the

door 109 of the delivery device, I have provided a shield or trip plate 125 which is preferably formed integrally with the rear end wall of the housing 103 and which projects rearwardly and downwardly in position to engage the lever arm 66 by which the door 56 is operated. The trip plates 125 and 124 and the lever mechanisms 66 and 123, are so proportioned and arranged with respect to each other that both doors will be opened at the same moment and when the door opening in the car is directly below the mail holding portion of the mail delivering device, thereby insuring the dropping of any mail contained therein into the mail receiving compartment 47 of the car. In order to normally hold the door 109 in normal position, I have provided a coiled spring 126, one end of which is connected to one of the levers 122 and the opposite end of which is connected to one of the sides of the casing or body member 106, this spring being so arranged that as soon as the lever mechanism 123 is released by the passage of the car, the door will be returned to closed position.

Having thus described the construction of my improved delivery and collection system, I will now describe its operation. The mail in the post-office or central station is of course assorted in the usual manner, but instead of being placed in boxes in the office or given to a carrier for distribution, it is placed in one of the cars above described and upon particular shelves therein, a shelf being provided in the car for each person living along the route over which the car passes. In arranging the mail in the car, great care must be taken that the mail for the first stations along the route be placed upon the lower shelves in the car and that no mail be placed upon an upper shelf that is to be delivered before any mail placed upon a shelf below. This system of arranging the mail in the car should be carefully worked out when the system is installed and the trip standards for releasing the shelves should, of course, be so arranged with respect to the various stations as to release the proper shelf at the proper station.

When the mail has been placed in the car the current is turned on the trolley wire or a switch between the trolley and motor closed, as the case may be, and the car started upon its trip. When the car reaches the first station its trip plate 95 engages the lever mechanism 92 of the station to open the door of the mail receiving device of said station, while at the same moment the terminal of the trip standard 96 at that station engages the free arm of one of the levers 73 of the car to release the proper shelf and permit any mail which may be placed thereon to fall into the mail receiving device from which it will pass by means of the chute to the mail box. As soon as the car has passed

over the mail receiving device, the spring 89 immediately closes the door 82 and therefore prevents all entry of rain or snow into the device and chute and so to the mail box. The shelf released by the trip standard however, remains in lowered position and therefore permits the later discharge of mail from the shelf immediately above. It is of course understood that all this is accomplished without any perceptible slowing down of the car which immediately passes on until its trip plate 124 engages the lever 123 of the mail delivering device to open the door 109 of the latter, the trip plate 125 of the mail delivering device in the meantime engaging the levers 66 to open the door 56 of the car, this simultaneous opening of the doors 109 and 56 permitting the discharge of any mail contained in the mail delivering device into the mail holding chamber 47 of the car. As soon as the car has passed beyond the mail delivering device both doors are automatically closed. This operation is repeated at all the stations along the route, the car leaving any mail which it may have for each station at its station and collecting any mail contained in the mail delivering devices of the stations.

As the manner of lowering the mail delivering device and placing the mail therein and returning the device to operative position has already been described in connection with the construction of the mail delivering device, any more detail description of the same is thought to be unnecessary.

It will of course be understood that any number of different tracks or routes may be run from the central station or post-office and that a different car may be employed upon each route or that more than one car may be employed upon a single route, one car carrying the mail for a portion of the route and then merely collecting the mail for the remainder of the route, while the other car carries the mail for the last part of the route.

I do not wish to limit myself to any specific details of construction as various changes may be made without departing from the spirit of my invention. For instance, the cars may be so arranged that each car will traverse the complete route leaving mail at all the stations but passing freely beneath the mail delivering devices and therefore collecting no mail, while a special car for collecting the mail may be sent out along the route, this second car being constructed without mail holding shelves or trip levers and merely collecting the mail along the route. Furthermore, although an electrically driven car possesses many advantages, under ordinary circumstances, over cars of other types, it will of course be understood that I may employ a spring drive or in fact any other suitable form of

propelling mechanism for operating the cars. Then again although I have illustrated and described the mail delivering device as mounted in advance of the mail receiving device, it could, with equal facility, be mounted at the rear of the receiving device without in any way affecting the operation or efficiency of the system.

Moreover, although I have described the system as one employed for distributing and collecting mail, it will of course be understood that it may be employed for any other purpose to which it may be adapted or for which it may seem advisable to adapt it, such as the delivering and collecting of parcels in stores, the transmission of books in libraries and public buildings and the like.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A distribution and collection system including tracks, a car movable over the tracks, a plurality of stations located along the tracks, and a receiving device located at each station, each receiving device including a casing provided with a sliding closure, means for normally holding the closure in closed position, a lever device pivoted to the casing and extending upwardly therefrom in position to be engaged by the car upon the passage of the latter over the receiving device, and connecting means between the upper ends of said lever device and the closure whereby the depression of the lever device will momentarily open the closure.

2. A distribution and collection system including tracks, a car on said tracks, a plurality of stations, and a receiving device located at each station, each receiving device including a casing having a slidable closure, means for normally maintaining the closure in operative position, an upwardly directed lever device pivoted to the casing and adapted upon depression to open the closure, said device extending in the path of the car, and a receiving chute leading from the casing and terminating in a box having a lock closure.

3. A distribution and collection system including tracks, a distributing and collecting car suspended from the tracks and movable thereon, a plurality of stations located at intervals along the tracks, and a delivery device supported above the tracks at each station, each delivery device including a casing open at its lower end, a slidable door normally closing said open lower end, a downwardly depending lever device operatively connected to the door and adapted when swung upwardly to open the door, and means carried by the car for swinging said lever device upwardly during the passage of the car beneath the delivery device.

4. A distribution and collection system including tracks, stations located at intervals

along the tracks, a receiving device located at each station, a trip standard located at each station, a distributing and collecting car movable over the tracks and open at its bottom, a plurality of shelves swingingly mounted in the car, means for normally holding the shelves in operative position, levers connected to said holding means and movable to throw the same into inoperative position, each of said levers extending into the path of the trip standard of one of the stations.

5. A distribution and collection system including tracks, stations located along the tracks, a receiving device located at each station, a car movable along the tracks, a plurality of vertically spaced apart swingingly shelves mounted in the same, means including swingingly mounted levers for normally supporting the shelves in horizontal position, and a trip standard located at each station, each of said standards being positioned to extend in to path of one of the levers.

6. A distribution and collection system including tracks, stations located at intervals along the tracks, a receiving device located at each station and provided with a sliding closure, means for normally holding said closure in operative position, a car movable over the tracks and provided with a plurality of swingingly mounted shelves, means for normally holding the shelves in raised position, means operable by the movement of the car over the receiving device for opening the closure of the latter, and means located adjacent the receiving device for simultaneously releasing one of the shelves.

7. A distribution and collection system including tracks, a delivering device located above the tracks, a normally closed sliding door mounted in the bottom of said delivering device, a collecting and distributing car movable along the tracks and beneath the delivery device, a normally closed sliding door in the top of said car, and means for simultaneously opening the door of the delivery device and the door of the car when the car is immediately below the delivery device.

8. A distribution and collection system including tracks, a plurality of stations located at intervals along the tracks, a delivery device supported at each station above the tracks, said delivery device having a normally closed sliding door, a car movable along the tracks and provided with a receiving compartment, a normally closed door for said compartment, and means for simultaneously opening the doors of the delivery device and of the car when the latter is immediately below the delivery device to permit the discharge of the contents of the delivery device into the car.

9. A distribution and collection system including tracks, stations at intervals along

the tracks, a delivery device supported above the tracks at each station, each delivery device including a housing open at its lower end and provided with a rearwardly directed trip shield, a casing open at its upper end and adapted to seat in the lower end of the housing, a normally closed sliding door closing the bottom of said casing, means for raising and lowering the casing into the position in the housing, a car movable along the tracks, said car having a normally closed door adapted to be opened by the trip shield of the housing during the passage of the car beneath the delivery device, and means operable by the car for simultaneously opening the door of the delivery device.

10. A distribution and collection system including a plurality of delivery devices each including a housing open at its lower end and supported by its top, a body member open at its upper end and adapted for telescopic engagement in the housing, a sliding closure for the lower end of said body member, means for normally holding the closure in closed position, a lever device movable upwardly to open the closure, and means for raising and lowering the body member into and out of the housing.

11. A distribution and collection system including a distributing and collecting car, transverse partition walls dividing the car into a central and end compartments, the bottom of the car being open, a closure for the bottom of the central compartment, and a sliding closure normally held in operative position for the top of the central compartment.

12. A distribution and collection system including a self-propelled car, transverse partitions dividing the car into a central and end compartments, closures for the upper and lower ends of the central compartment, the lower ends of the end compartments being open, longitudinally extending partitions dividing the end compartments, a plurality of shelves swingingly mounted upon the longitudinal partitions, means carried by the car for normally supporting said shelves in raised position.

13. A distribution and collection system including a self-propelled car, transverse partitions dividing the car into a central and end compartments, closures for the upper and lower ends of the central compartment, the lower ends of the end compartments being open, longitudinally extending partitions dividing the end compartments, a plurality of shelves swingingly mounted upon the longitudinal partitions, and means carried by the car for normally supporting said shelves in raised position, said means including bell-crank levers swingingly mounted upon the sides of the car, pins pivoted by one end to the advance arms of said levers and extending through

the sides of the car and beneath the edges of the shelves, and springs normally holding the levers in position to maintain the pins beneath the shelves.

14. A self-propelled car for a distribution and collection system, including a body member having longitudinally extending partition walls, a plurality of shelves swingingly mounted upon one side of said partition walls, each of said shelves being at a different height, a plurality of shelves swingingly mounted upon the other side of said partition walls and at different heights from each other, pins extending through the side walls of the car and beneath the free edges of the shelves to normally support the same in operative position, bell-crank levers pivoted upon the sides of the cars and operatively connected by one arm to the pins, and springs engaging the levers to normally hold the same in operative position with their free arms extending laterally from the sides of the car.

15. A distribution and collection system including tracks, receiving devices located at intervals along the tracks, a distributing car movable over the tracks and provided with a plurality of swingingly mounted shelves, and means positioned adjacent each receiving device for selectively tilting one of said shelves during the passage of the car to discharge its contents into the adjacent receiving device.

16. A distribution and collection system including tracks, a delivery car movable along the tracks, a plurality of swingingly mounted shelves positioned in the car, and means located along the tracks at intervals for selectively releasing the shelves to discharge their contents from the car.

17. A distribution and collection system including a plurality of delivery devices each including a housing open at its lower end, a body member open at its upper end and adapted for telescopic engagement in the housing, and a closure for the lower end of the body member.

18. A distribution and collection system including tracks, a car movable along said tracks, and delivery devices positioned at spaced intervals along the tracks, each delivery device including telescopic housing members, one of which is provided with a closure adapted to be opened by the passage of the car beneath the same.

19. A distribution and collection system including tracks, a car movable along said tracks, and delivery devices positioned at spaced intervals along the tracks, each delivery device including telescopic housing members, one of which is provided with a closure adapted to be opened by the passage of the car beneath the same, and means for raising and lowering said housing member having the closure.

20. A distribution and collection system including a car divided into compartments, closures for the upper and lower ends of one of the compartments, a plurality of shelves
5 swingingly mounted in another compartment, and means carried by the car for normally supporting said shelves in horizontal position.

21. A distribution and collection system
10 including a car divided into compartments, closures for the upper and lower ends of one of the compartments, a plurality of shelves

swingingly mounted in another compartment, and means carried by the car for normally supporting said shelves in horizontal position, the supporting means on either side
15 of the car all being located at different levels.

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

HARRY D. IRICK. [L. S.]

Witnesses:

ZEE M. BROKAW,
J. D. YOAKLEY.