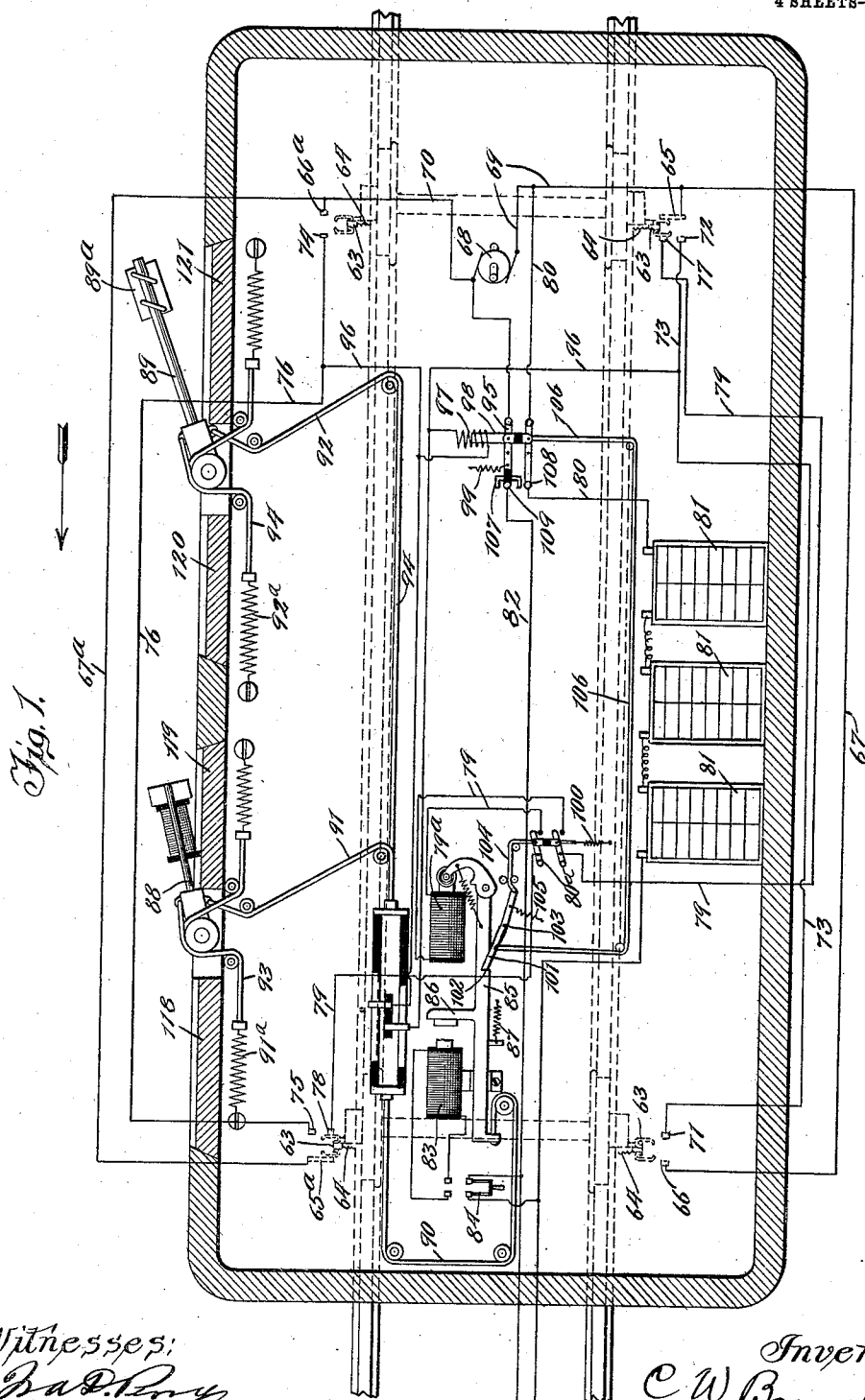


C. W. BROUGHTON.
MAIL POUCH RECEIVING AND DELIVERING APPARATUS FOR RAILWAY CARS AND THE LIKE.
APPLICATION FILED MAY 5, 1909.

944,716.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 1.



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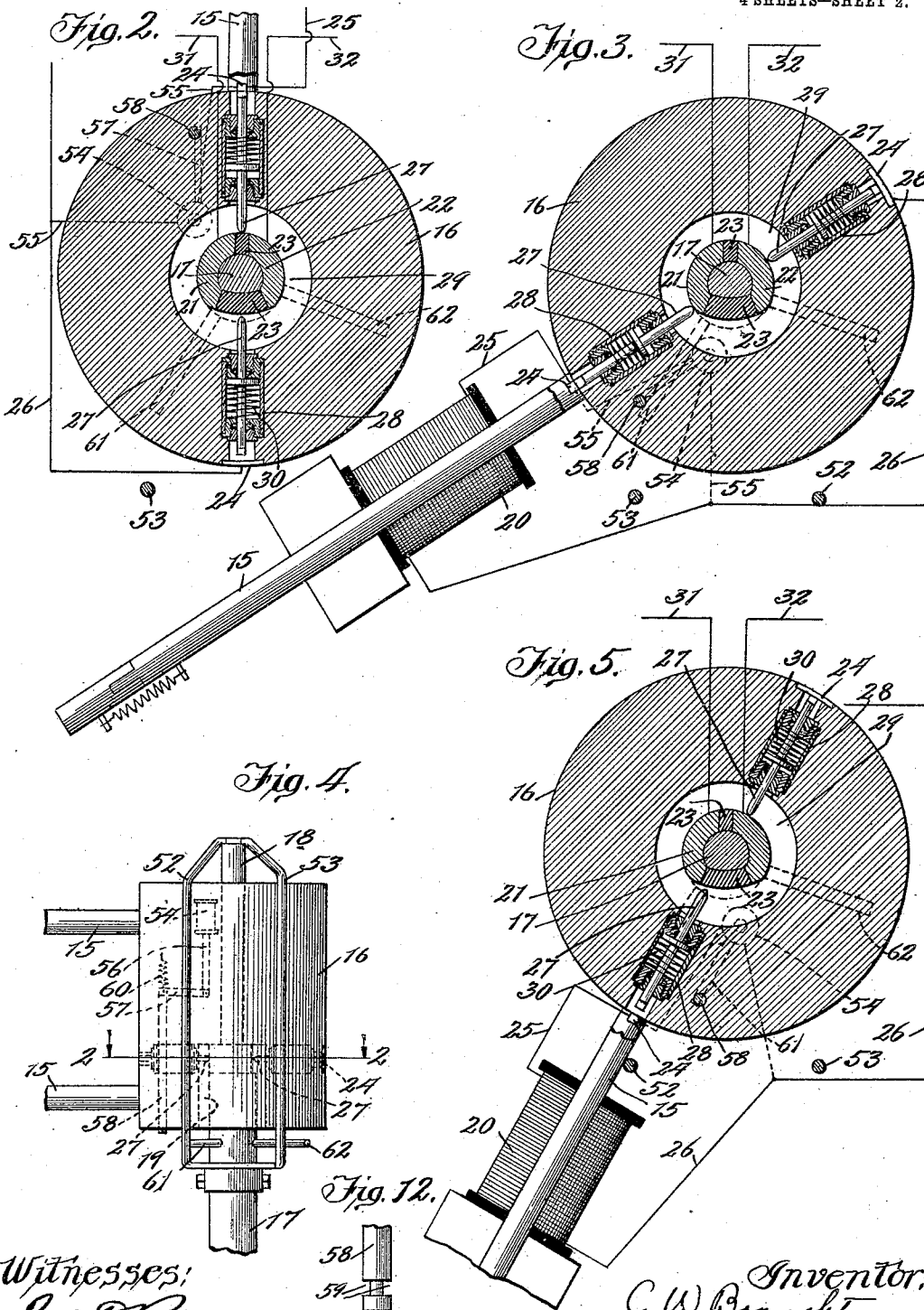
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

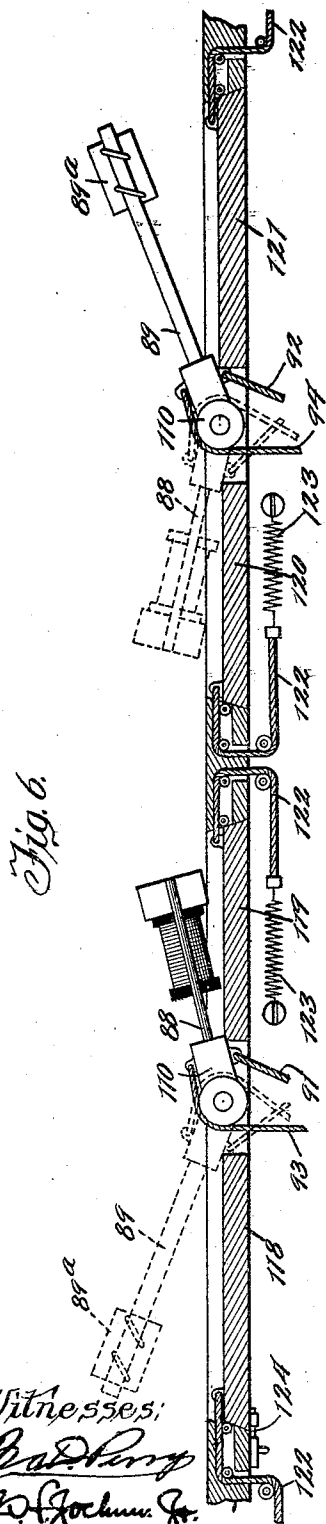


Fig. 6.

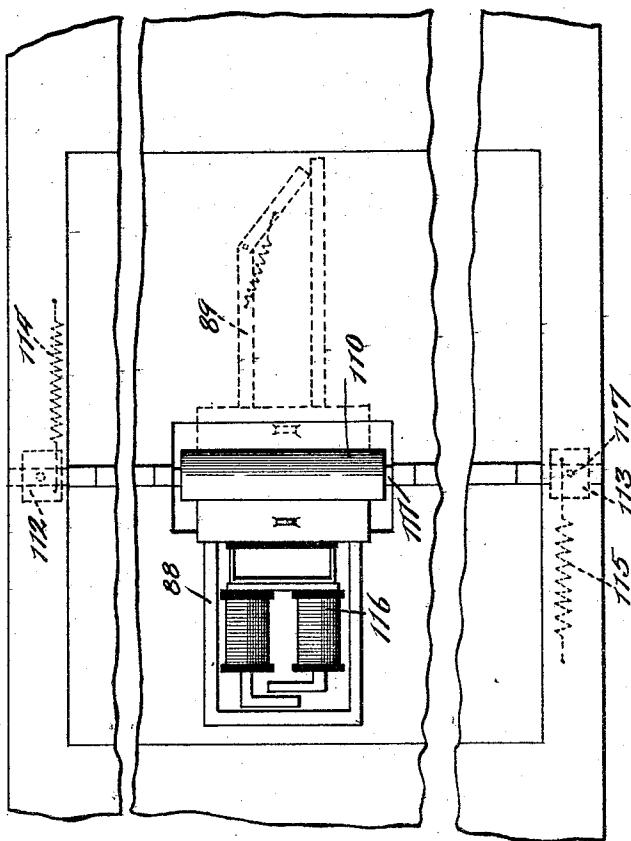


Fig. 7.

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944,716.

4 SHEETS—SHEET 4.

Fig. 8.

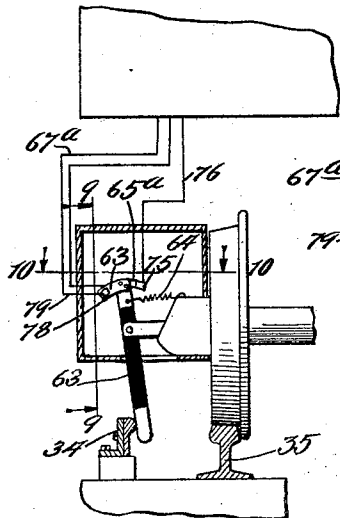


Fig. 9.

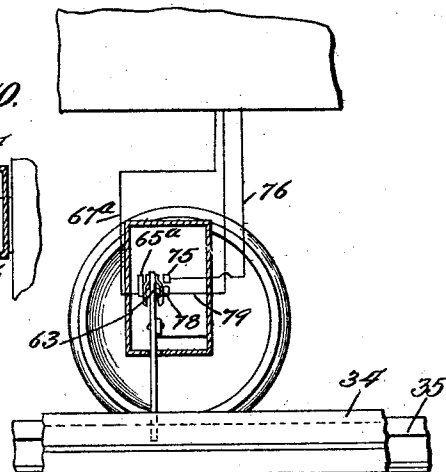
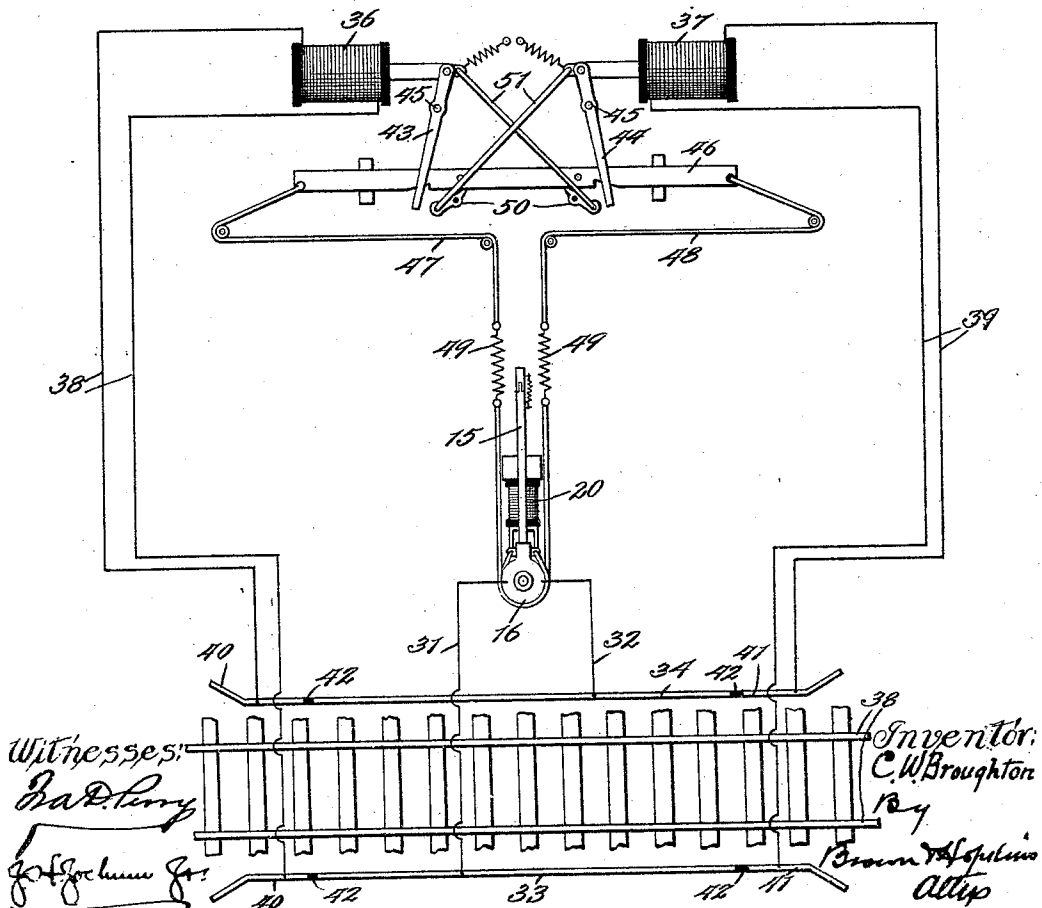


Fig. 11.



UNITED STATES PATENT OFFICE.

CHAUNCEY W. BROUGHTON, OF MCGIRR, CARLTON, ILLINOIS.

MAIL-POUCH RECEIVING AND DELIVERING APPARATUS FOR RAILWAY-CARS AND THE LIKE.

944,716.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed May 5, 1909. Serial No. 494,001.

To all whom it may concern:

Be it known that I, CHAUNCEY W. BROUGHTON, a citizen of the United States, residing at McGirr P. O., Carlton, Dekalb county, Illinois, have invented certain new and useful Improvements in Mail-Pouch Receiving and Delivering Apparatus for Railway-Cars and the Like, of which the following is a specification.

This invention relates more particularly but not necessarily to an improvement upon the mail pouch receiving and delivering apparatus for railway cars of the particular type shown and described in my U. S. Patent No. 880,008, issued February 25, 1908, to which reference may be had for an understanding of any features common to the two devices which are shown herein but not described in detail, and one of the objects of the present invention is to provide improved means for keeping the magnet on the station arm which receives the bag or package from the arm on the car, demagnetized, until the magnet on the car passes and picks up the mail package from the station arm.

A further object is to provide improved means for energizing the magnet at the station to pick up or receive the mail pouch or package from the car.

A further object is to provide improved means for causing the approaching train to automatically set the pouch or package holding arm at the station to a position to deliver the pouch or package to the car, and improved means for further adjusting the station arm to a position to receive or pick up the package or pouch from the car.

A further object is to provide improved means for magnetizing and demagnetizing the magnet on the station arm.

A further object is to provide an improved reversible arm for the car which may be shifted or reversed to permit the same to operate when the train is running in either direction and from the same side of the car.

A further object is to provide improved means for cutting off the car lighting circuit from the generator as the train approaches the station and improved means whereby the generator circuit of the car will set the station arms and energize the magnet thereon.

A further object is to provide an improved

device of this character which will be simple and durable in construction, effective, efficient and positive in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings, illustrating an embodiment of the invention, and in which—

Figure 1 is a diagrammatic plan view of a railway car equipped with an apparatus of this character constructed in accordance with the principles of this invention, showing the car frame in section and the apparatus in a running position or the position assumed between stations. Fig. 2 is an enlarged detail sectional view taken on line 2—2 of Fig. 4, showing the station arm in its normal position or position to point away from the track. Fig. 3 is a view similar to Fig. 2, showing the station arm in the position in which it is set by the receiving arm on the car. Fig. 4 is a detail elevation of the head and a portion of the station arm. Fig. 5 is a view similar to Fig. 3, showing the station arm in the position in which it is set by the approaching train. Fig. 6 is an enlarged detail plan view partly in section showing in full lines the arms on the car in their running position when the car is advancing in one direction and also showing in dotted lines the reverse position of the arms on the car when the car is running in the opposite direction. Fig. 7 is an enlarged detail elevation of one of the car arms. Fig. 8 is an enlarged detail elevation partly in section of one of the brushes. Fig. 9 is a sectional view on line 9—9 of Fig. 8. Fig. 10 is a sectional view on line 10—10 of Fig. 8. Fig. 11 is a diagrammatic plan view of the station arm and the setting mechanism for the arm. Fig. 12 is a detail view of one extremity of the pin or bar for locking and holding the arm of the station device in position and against return movement in the direction of the track.

Referring more particularly to the drawings and in the present exemplification of the invention the numeral 15 designates a horizontal arm which supports the mail

pouch at the station in a suitable position preparatory to being received upon the moving car. This arm may be of the usual or any suitable construction, but in the present exemplification of the invention it consists of ordinary bars which are secured to a head 16, which is mounted for rotation upon a suitable support or standard 17, the extremity 18 of which is preferably reduced and extends through the head 16 to form an upright axis. The portion of the standard 17 adjacent the reduced extremity 18 is adapted to enter a recess 19 provided in the head 16, thereby protecting the end of the standard and preventing the entrance of water.

Supported between the members of the arm 15 is an electro-responsive device 20, preferably in the form of a magnet, and secured to the standard are contact members 21, 22, which are insulated from each other by suitable insulating material 23. Supported by the head 16 and spaced from the contact members 21, 22, are contacts 24, which latter are connected to the electro-responsive device 20 by means of suitable conductors 25, 26. Supported also by the head 16 are spring controlled plungers 27, which project through suitable housings 28. One extremity of each of these plungers is adapted to project into a recessed portion 29 of the head 16 so as to engage the contacts 21, 22, and the insulating portions 23 as the head is rotated about the axis formed by the standard 17. The other ends of the plungers 27 are adapted to be moved into engagement with the contacts 24 as the head is rotated and to be moved out of engagement with the contacts 24 as the head is rotated and to be moved out of engagement with the contacts by means of elastic members such as springs 30 when the head assumes its proper position to permit the springs to act. The contact members 21, 22, and the insulating portions 23 are constructed to form an annular member having an irregular periphery so that when the extremities of the members 27 are both in engagement with the contacts 21, 22, the other ends thereof will be moved respectively into engagement with the contacts 24 but when the head is in a position to permit the extremities of one of the members 27 to stand adjacent one of the insulating sections 23 as shown in Fig. 5, the other end of the respective member 27 will be moved out of engagement with its contact 24 to break the circuit through the electro-responsive device 20.

Connected to the contacts 21, 22, are conductors 31, 32, the other extremities of which are connected to conductors 33, 34, which are arranged adjacent the tracks 35, so that when the conductors 33, 34, are energized in a manner to be hereinafter set forth, the electro-responsive device 20 on the station arm will also be energized when the latter

is in the position shown in Fig. 3, that is, with the members 27 in engagement with the contacts 21, 22.

The normal position of the arm 15 is to point directly away from the track so as not to form an obstruction to a passing object. Any suitable means may be provided for moving the arm into this position and for shifting the same to a position to point toward the track. A suitable and efficient means for accomplishing this purpose comprises a pair of electro-responsive devices 36, 37, preferably in the form of solenoids, and these electro-responsive devices are connected by means of suitable conductors 38, 39 respectively to sections 40, 41 of the conductors 33, 34, which are insulated from the conductor sections 33, 34 by means of suitable insulation 42. Connected to the armatures of the solenoids are arms 43, 44, which are pivoted intermediate their ends as at 45. The extremities of these arms 43, 44, are adapted to engage suitable projections on a sliding member 46, to the extremities of which are connected suitable flexible members 47, 48. The other extremities of these flexible members are connected to the head 16 in any suitable manner and may be provided with elastic sections 49, so that when the member 46 is moved in one direction by one of the solenoids, the head 16 will be correspondingly rotated, and when the member 46 is moved in the opposite direction by the other solenoid, the head 16 and the arm supported thereby will be moved in the opposite direction. The member 46 is retained in its adjusted position by means of locking pawls 50 which are connected by suitable links to the armatures of the respective solenoids. The specific construction and operation, however, of the mechanism just above described for moving the station arm from its normal position to a position to point toward the track and for moving the arm back to its normal position forms no part of the present application but forms the subject matter of my application filed January 6, 1909, Serial No. 470,900.

In order to limit the movement of the arm 15 in the direction of the track, suitable stops 52, 53 are provided and these stops are arranged in the path of movement of the arm, one in either direction and against which the arm strikes to retard its movement. These stops are preferably supported by the upright or standard 17 and also by the extremity 18 thereof and project above the top and bottom of the head 16 with their body portions spaced from the periphery of the head.

Supported by the head 16 is an electro-responsive device 54, preferably in the form of a solenoid which is arranged in shunt with the electro-responsive device 20 through the medium of the conductors 55 so that

when the electro-responsive device is energized, the solenoid 54 will also be energized. Connected to the armature 56 of the solenoid is a link 57 (see Fig. 4) and this link
 5 in turn is connected to a bar or pin 58, one extremity of which projects below the lower face of the head 16 and is provided with notches or recesses 59 in the periphery thereof for a purpose to be set forth. An elastic
 10 member 60, such as a spring, is provided for normally raising the bar or pin 58. Extending laterally from the standard 17 are projections 61, 62, which are adapted to be respectively engaged by the lower extremity
 15 of the bar or pin 58 when the latter is lowered, which movement will be effected when the solenoid 54 is energized.

The operation of this portion of the mechanism, briefly stated, is as follows: As the train approaches the station the brushes supported thereby will engage one of the sections 40, 41, of the rail conductors according to the direction from which the train approaches which will energize one or the
 25 other of the solenoids 36, 37 to move the arm from the position shown in Figs. 2 and 11 to the position shown in Fig. 5, that is, to the position in which the arm 15 will engage the stop 52 so that one of the members 27
 30 will stand adjacent one of the insulating sections 23 to interrupt the circuit through the electro-responsive device 20. In this position, the mail pouch or package will be properly held to be picked up or received
 35 by the receiving arm on the car. As the car advances and as the mail pouch or package is being delivered from the arm 15, the receiving arm on the car will push the arm 15 away from the track, thereby rotating the
 40 head 16. During this rotary movement the member 27 which is adjacent one of the insulating sections 23 on the upright or standard will be moved into engagement with the contact member 21 to shift the member
 45 27 so that the latter will also engage the contact 24 and thereby complete the circuit through the electro-responsive device 20 so that the current will flow from the conductor sections 33, 34, through one of the
 50 conductors 31, 32, to one of the contacts 21, 22, through one of the members 27, contact 24, electro-responsive device 20, back to the other contact 24, through the other member 27, through the other contact 21, 22, and
 55 back to the other section of the rail conductor. At the same time a portion of the current will be shunted through the solenoid 54, which will attract the armature 56 and lower the bar or pin 58 against the tension
 60 of the elastic member 60. When the bar or pin is lowered, the respective recess 59 in the extremity thereof will receive the respective projection 62 on the upright or standard 17 to lock the bar or pin against
 65 return movement under the influence of the

elastic member 60 when the solenoid 54 is de-energized to prevent the arm 15 from swinging back toward the track before the other one of the solenoids 36, 37, is energized to shift the arm back to its normal position
 70 pointing away from the track.

When the brushes on the car pass off of the conductor sections 33 and 34, the circuit through the electro-responsive device 20 will be interrupted and as the brushes pass from
 75 the section 33, 34, they will move into engagement with either of the sections 40, 41, to energize one of the solenoids 36, 37, according to the direction of movement of the car to shift the arm back to its normal position.
 80 If desired, the recess 29 in the head 16 and into which the extremities of the members 27 project may be filled with oil so that the contacts may be broken under oil.

The brushes 63 are preferably supported
 85 from the car trucks, as shown more clearly in Fig. 8, and one extremity thereof projects a sufficient distance below the truck so as to engage the conductors adjacent the tracks as the car advances, and the con-
 90 ductors and brushes are so arranged with respect to the track that as the extremity of the brush engages the conductor, the brush will be rocked about its pivot in one direction to complete the circuits in the car in a
 95 manner to be set forth and when the brush moves out of engagement with the conductor 34, it will be moved about its pivot in the opposite direction to interrupt the circuits in the car, in any desired or suitable manner
 100 but preferably by means of an elastic member, such as a coil spring 64 or the like. Any suitable number of brushes 63 may be provided but preferably four are employed, two of which are arranged at each end of the
 105 car and the brushes on each side of the car are preferably connected in parallel.

Arranged adjacent one of the brushes at each end of the car and on opposite sides thereof are elongated contacts 65, 65^a with
 110 which the respective brush is always in engagement. These contacts 65, 65^a, are connected to short contacts 66, 66^a on the opposite end of the car and on the same side thereof, through the medium of conductors
 115 67, 67^a.

The contacts 65, 66 are connected to a generator 68 on the car through the medium of a conductor 69 and the brushes 65^a, 66^a, are also connected by means of a conductor
 120 70 to the generator 68. A contact 71 cooperates with the contact 66 and is connected to a similar short contact 72 which is arranged adjacent one end of and cooperates with the elongated contact 65 by means of
 125 a conductor 73. A similar contact 74 is arranged adjacent and cooperates with the contact 66^a and is connected to another short contact 75, which is arranged adjacent one end of and cooperates with the elongated
 130

contact 65^a, by means of the conductor 76. Arranged adjacent the other end of the elongated contact 65 and spaced from the contact 72 is another short contact 77 which is so arranged with respect to the contact 72 that when the brush 63 is in engagement therewith it will be out of engagement with the contact 72 and vice versa, but the contact 65 is so arranged that the brush will remain in engagement therewith in either of its positions. The contact 77 is connected to a similar short contact 78 on the opposite side of the car and at the opposite end thereof, through the medium of a conductor 79. The contact 78 is arranged in the same manner with respect to the contact 75 and the elongated contact 65^a as the arrangement of the contacts 72, 77 with respect to the contact 65, so that when the car is running between the stations, the cooperating brush 63 will be held in engagement with the contacts 65, 77 by the elastic member 64 and the respective brush 63 will be held in engagement with the contacts 65^a and 78.

A solenoid 79^a is arranged in the circuit between the contacts 77 and 78 and a switch 80^a is also arranged in this circuit for interrupting the current through the solenoid 79 in a manner to be set forth. One of the lighting circuit conductors 80 leads from the generator 68 through the batteries 81 by means of which the batteries may be charged from the generator and the other conductor 82 returns to the generator 68.

A solenoid 83 is tapped into the lighting circuit and is controlled by a switch 84 and a sliding member 85 is provided with an armature 86 adapted to be attracted by the electro-responsive device 83 against the tension of the elastic member 87 when the switch 84 is closed to shift the sliding member 85. This member 85 is connected to the receiving arm 88 and the delivery arm 89 on the car through the medium of flexible members 90, 91, 92, so that when the sliding member 85 is shifted by the electro-responsive device 83 the arms 88 and 89 will be drawn inwardly toward the car against the tension of the elastic members 91^a, 92^a, which in turn are connected by means of flexible members 93, 94 with the respective arms. The normal tendencies of the elastic members 91^a, 92^a, are to hold the arms 88, 89 projected outwardly from the car. These arms 88, 89 are held at different angles with respect to the car; the position of the arm 88 is such that when the car approaches the station this arm will engage the arm 15 at the station and move the latter from the position shown in Fig. 5 to that shown in Fig. 3, in which position it will be locked so that the arm 89, as it advances, will present the sack or package supported thereby in a proper position to be removed from the arm 89 by the electro-responsive device 20. By

arranging these arms on the car at different angles it will be apparent that the arm 15 at the station will be in such a position that the electro-responsive device 20 thereon will be demagnetized until the arm 88 has removed the pouch or package therefrom and as soon as the package has been removed from the arm 15 it will be shifted from the arm 88 to a position that the electro-responsive device will be energized to remove the pouch or package from the arm 89 as the latter approaches.

Arranged in the light circuit leading from the generator is a double-throw six-point switch designated generally by the reference numeral 95 and arranged in a shunt circuit 96 with the contacts 72, 74 is an electro-responsive device preferably in the form of a solenoid 97, the armature 98 of which is connected to the switch 95. The switch is normally held closed by an elastic member 99, such as a spring, so that when the car is running between the stations the generator will supply the lighting circuit.

As the car approaches the station the brushes 63 will engage the conductor rails and one of the pair of brushes, the pair arranged at the forward end of the car, assuming the car to be running in the direction shown by the arrow in Fig. 1, which will move the brushes shown in dotted lines in Fig. 1 to a position that the brush on one side will engage the contacts 66^a, 71 and the brush on the other side will move out of engagement with the contact 78 and into engagement with the contact 75. Just as the car leaves the station and after the brushes have passed out of engagement with the conductor rails, they will assume the position shown in dotted lines in Fig. 1 and the switch 95 will be closed by the spring 99 and the switch 80 will be closed by the spring 100. When the switch 80^a is thus closed, the circuit will be as follows: from the generator 68, through the conductor 70, conductor 67^a, contact 65^a, brush 63, contact 78, conductor 79, switch 80^a, one of the conductors 79, electro-responsive device 79^a, through the other conductor 79, switch 80^a, contact 77 on the other side and opposite end of the car, brush 63, contact 65, conductor 69, back to the generator 68. The current thus flowing through the electro-responsive device 79^a will energize the same and shift the member 85 to draw in the arms 88, 89. When the member 85 is thus shifted, it is locked in its shifted position by means of a dog 101 which engages a shoulder 102. This dog 101 is pivoted intermediate its ends as at 103 and is connected to the switch 101 by means of a flexible member 104. An elastic member 105 is provided, which tends normally to move one extremity of the dog into engagement with the member 85 and to open the switch 80^a against the tension of the

spring 100. When the shoulder 102 on the member 85 has assumed a position to permit the dog 101 to engage thereagainst, the dog will open the switch 80^a, thereby breaking the current through the electro-responsive device 79^a to deenergize the same to prevent waste of current when the car is moving between stations and after the arms 88, 89 have been shifted.

10 As the car approaches a station, when moving in the direction indicated by the arrow in Fig. 1, the brushes 63 at the forward end thereof will be shifted so that one of the brushes will engage the contacts 66, 15 71, and the other brush will engage the contact 65^a, 75. When the brushes have assumed this position, the circuit will be as follows: from the generator 68, through the conductor 70, conductor 67^a, contact 65^a, 20 contact 75, conductor 76, conductor 96, electro-responsive device 97, conductor 73, contact 71 on the other side of the car, brush 63, contact 66, conductor 67, conductor 69 back to the generator. When the electro-responsive device 97 is thus energized it will 25 attract the armature 98 and will open the switch 95 to cut off the generator from the lighting circuit. At the same time the armature 98 is attracted, the dog 101 will be moved out of engagement with the shoulder 30 102 through the medium of a flexible member 106 which is connected to the armature 98 and the dog 101, thereby permitting the switch 80^a to close and the member 85 to move under the influence of the spring 87 35 to permit the arms 88, 89 to assume positions to cooperate with the station arm under the influence of the elastic members 91^a, 92^a. Supported by one of the members of 40 the switch 95 is a contact 107 which is insulated from the switch and is adapted to be moved into engagement with contacts 108, 109, to which the conductors 80, 82 are connected, so that when the switch 95 is shifted 45 to cut out the generator 68 from the lighting circuit, the contact 107 will be simultaneously shifted into engagement with the contacts 108, 109 to complete the battery circuit and to throw the lights onto the battery circuit. This operation is performed 50 in order to utilize the generator circuit as a medium for energizing the station device without decreasing the potential of the light circuit. When the generator 68 is thus cut 55 out from the lighting circuit and the brushes at one end of the car are in engagement with the conductor rails 33, 34, 40 or 41, the current from the generator will be delivered to the station device in the following manner, assuming the brushes 63 at 60 the forward end of the car to be respectively in engagement with the contacts 71, 75—from the generator 68 through the conductor 70, conductor 67^a, contact 65^a, brush 63, conductor rail section 34 (assuming the

brushes to be in engagement with said section), conductor 32, contact 22, on the upright or standard 17, member 27, contact 24, conductor 26, electro-responsive device 20 on the station arm, conductor 25, the other 70 member 27, contact 21 (assuming the station arm to be in the position shown in Fig. 3), conductor 31, across to the other side of the rail to the conductor section 33, from the conductor section 33 to the brush 63, contact 75 66, conductor 67, conductor 69, back to the generator.

After the car has left the station and the brushes pass out of engagement with the conductor rail sections, they will be returned to the position shown in dotted lines in Fig. 1, which will deenergize the electro-responsive device 97 and permit the spring 99 to shift the conductor 107 and close the switch 95, thereby shifting the light circuit 85 from the batteries back to the generator. Each of the arms 88, 89 carried by the car is supported by a head 110 which is adapted to be reversed so that the arms may be reversed or interchanged from the position 90 shown in full lines in Fig. 6 to that shown in dotted lines, to permit the mechanism to be operative from the same side of the car when the car is running in either direction. The head 110 is mounted upon an axle or 95 support 111 (see Fig. 7) which is journaled in suitable bearings in the car frame. Loosely mounted upon the extremities of these axles are pulleys 112, 113, and an elastic member 114, 115, such as a coil spring or the like 10 is secured by one extremity respectively to each of the members 112, 113, and tend to rotate the axle 111 in opposite directions. The arm 88 which supports the electro-responsive device 116 is removably connected 105 to the head 110, and the arm 89 which delivers the sack or package to the station is also removably connected to its supporting head 110 and these arms 88, 89 are interchangeable. When the arms 88, 89 are secured to the respective heads for operation 110 in the direction shown in full lines in Fig. 6, one of the pulleys, preferably the pulley 113, is secured to the axle 111 for rotation therewith in any desired or suitable manner, 115 preferably by means of a pin 117 passing therethrough and into the axle so that the elastic member 115 will tend to hold the arms in the position shown in full lines in Fig. 6. When the car is to be run in the 120 opposite direction, the arms 88 and 89 are interchanged, the pulley 113 released from the axle 111 and the pulley 112 secured fast thereto in the same manner so that its elastic member or spring 114 will operate to 125 hold the arms in the position shown in dotted lines in Fig. 6.

In order to permit the arms 88 and 89 to operate in both directions, it is necessary to provide four door sections 118, 119, 120, 130

and 121. These sections are changed in pairs to move about axes adjacent the axle 111 of the respective arms and connected to the free extremity of each door section is a flexible member 122, which passes over suitable pulleys with the free extremities extending into the car and connected to which free extremities are elastic members 123, such as coil springs or the like, which tend normally to hold the respective door sections closed. When the arms are moved into the car, during their movement they will engage the respective door section and will also move the sections about their pivots and inwardly against the tension of the elastic holding means 123. When the arms are moved out of the car, the elastic members 123 and the flexible members 122 will move the door sections into closed positions. If desired, a suitable locking means 124, such as a bolt or the like, may be provided for locking the door sections which are not in use. With this improved construction, the mail pouch or package which is to be delivered to the car is supported by the arms 15 of the station device in advance of the electro-responsive device 20 and the pouch or package to be delivered from the car to the station will be supported by the arm 89 as at 89^a in Fig. 1 so that when the car advances to the station, the electro-responsive device on the arm 88 will attract the armature on the pouch or package supported by the arm 15 while the electro-responsive device 20 is deenergized. At the same time the electro-responsive device on the arm 88 will move the arm 15 away from the track and into a position to permit the electro-responsive device 20 thereon to be energized, so that it will attract the armature on the pouch 89^a supported by the arm 89 and the pouch will be drawn from the arm as the car advances and will be sustained by the electro-responsive device 20. By arranging the arm 89 to project from the car at a different angle than the arm 88, the shifting movement of the arm 15 may be accomplished and the electro-responsive device thereon energized after the electro-responsive device on the arm 88 has passed. After the pouch or package has been taken from the arm 89, the head 16 may be rotated by the electro-responsive device at the station to shift the arm away from the track from the position shown in Fig. 3 to that shown in Fig. 2 and as the arm moves into the position shown in Fig. 2, the members 27 will move opposite the insulating sections 23 on the upright or standard 17 to interrupt the current through the electro-responsive device 20 to demagnetize the latter.

In order that the invention might be fully understood, the details of the foregoing embodiment thereof have been thus specifically described but what is claimed as new is—

1. In a device for the purpose set forth, the combination of magnetic means upon a railway car for receiving a mail pouch, magnetic means arranged at the side of the line of movement of the car for receiving a mail pouch from the car, a common means for energizing both of the said magnetic means, and means for preventing one of the said magnetic means from being energized while the other magnetic means is passing the latter.

2. In a device for the purpose set forth, the combination of magnetic means upon a railway car for receiving a mail pouch, magnetic means arranged at the side of the line of movement of the car for receiving a mail pouch from the car, means on the car for energizing both of said magnetic means, and means whereby one of the magnetic means will be deenergized when the other magnetic means is in proximity thereto.

3. In a device for the purpose set forth, the combination of a support, magnetic means on the support for sustaining a mail pouch adjacent to a railway track and movable toward and away from the track, a car adapted to travel on the track, magnetic means on the car for receiving the pouch from the first said magnetic means, means for energizing the magnetic means on the car, the last said means being adapted to shift the support when passing the latter, and means whereby the magnetic means on the support will be energized when the latter is thus shifted.

4. In a device for the purpose set forth, the combination of a support, magnetic means on the support for sustaining a mail pouch adjacent to a railway track and movable toward and away from the track, a car adapted to travel on the track, magnetic means on the car for receiving the pouch from the first said magnetic means, means for energizing the magnetic means on the car, the last said means being adapted to shift the support away from the track when passing the support, means for locking the support against return movement toward the track, and means whereby the magnetic means on the support may be energized when the support is thus shifted.

5. In a device for the purpose set forth, the combination of a support, magnetic means on the support for sustaining a mail pouch adjacent to a railway track and movable toward and away from the track, a car adapted to travel on the track, magnetic means on the car for receiving the pouch from the first said magnetic means, means for energizing the magnetic means on the car, the last said means being adapted to shift the support away from the track when passing the support, means for automatically locking the support against return movement toward the track, means whereby

the magnetic means on the support may be energized when the support is thus shifted, and means for rendering the locking means inoperative during the movement of the support to the position to be engaged and shifted by the magnetic means on the car.

6. In a device for the purpose set forth, the combination of a support, magnetic means on the support for sustaining a mail pouch adjacent to a railway track, magnetic means on the car for receiving the pouch from the first said magnetic means, means for energizing the magnetic means on the car, the last said means being adapted to shift the support, means whereby the magnetic means on the support will be energized when the support is thus shifted, and electro-responsive means arranged in shunt with the magnetic means on the support for locking the support against return movement toward the track after being shifted by the magnetic means on the car.

7. In a device for the purpose set forth, the combination of a support, magnetic means on the support for sustaining a mail pouch adjacent to a railway track, magnetic means on the car for receiving the pouch from the first said magnetic means, means for energizing the magnetic means on the car, the last said means being adapted to shift the support, means whereby the magnetic means on the support will be energized when the support is thus shifted, electro-responsive means arranged in shunt with the magnetic means on the support for locking the support against return movement toward the track after being shifted by the magnetic means on the car, and means rendering the said locking means inoperative during the movement of the support to the position to be engaged and shifted by the magnetic means on the car.

8. In a device for the purpose set forth, the combination of a support for sustaining a mail pouch adjacent to a railway track, movable toward and away from the track, a railway car adapted to move upon the track, magnetic means on the car for receiving the pouch from the support, means for energizing said magnetic means, a delivery support on the car for sustaining a pouch to be delivered from the car, magnetic means on the support adjacent the track for removing the pouch from the delivery support on the car, and means whereby the magnetic means on the support adjacent the track may be energized after the magnetic means on the car has passed and before the delivery support on the car reaches the last said magnetic means.

9. In a device for the purpose set forth, the combination of a support for sustaining a mail pouch adjacent to a railway track, movable toward and away from the track, a railway car adapted to move upon the track,

magnetic means on the car for receiving the pouch from the support, means for energizing said magnetic means, a delivery support on the car for sustaining a pouch to be delivered from the car, magnetic means on the support adjacent the track for removing the pouch from the delivery support on the car, said support adjacent the track being adapted to be adjusted by the magnetic means on the car to a position to receive the pouch from the support on the car, and means whereby the magnetic means on the adjusted support may be energized.

10. In a device for the purpose set forth, the combination of a support for sustaining a mail pouch adjacent to a railway track, movable toward and away from the track, a railway car adapted to move upon the track, magnetic means on the car for receiving the pouch from the support, means for energizing said magnetic means, a delivery support on the car for sustaining a pouch to be delivered from the car, magnetic means on the support adjacent the track for removing the pouch from the delivery support on the car, said support adjacent the track being adapted to be adjusted by the magnetic means on the car to a position to receive the pouch from the support on the car, means whereby the magnetic means on the adjusted support may be energized, and means for locking the adjusted support against return movement in a direction toward the track.

11. In a device for the purpose set forth, the combination of a support for sustaining a mail pouch adjacent to a railway track, movable toward and away from the track, a railway car adapted to move upon the track, magnetic means on the car for receiving the pouch from the support, means for energizing said magnetic means, a delivery support on the car for sustaining a pouch to be delivered from the car, magnetic means on the support adjacent the track for removing the pouch from the delivery support on the car, said support adjacent the track being adapted to be adjusted by the magnetic means on the car to a position to receive the pouch from the support on the car, means whereby the magnetic means on the adjusted support may be energized, and electro-responsive means arranged in shunt with the magnetic means on the adjusted support to lock said support against return movement in a direction toward the track.

12. In a device for the purpose set forth, the combination of a support for carrying or receiving a mail pouch on a car, an electro-responsive device for moving the said support to its retracted position, means for locking said support in its retracted position, means for automatically breaking the circuit through said electro-responsive device when the support is locked in its retracted position, a lighting circuit on the car, a gen-

erator and a battery included in said circuit, means for automatically cutting out the generator from said circuit and means for closing the circuit through the battery when the generator is cut out.

13. In a device for the purpose set forth, the combination of a support for carrying or receiving a mail pouch on a car, an electro-responsive device for moving the said support to its retracted position, means for locking said support in its retracted position, means for automatically breaking the circuit through said electro-responsive device when the support is locked in its retracted position, a lighting circuit on the car, a generator and a battery included in said circuit, means for automatically cutting out the generator from the circuit, means operatively related to the last said means for releasing the said support when the generator is cut out, and means for closing the circuit through the battery when the generator is cut out.

14. In a device for the purpose set forth, the combination of a support for carrying or receiving a mail pouch on a car, an electro-responsive device for moving the support to its retracted position, means for locking the support in its retracted position, means for automatically breaking the circuit through said electro-responsive device when the support is in its retracted position, a support for receiving or holding a bag to be delivered arranged along the line of movement of the car, and movable toward and away from the car, an electro-responsive device for moving the last said support, a source of electrical energy on the car including a generator and a battery, means for cutting out the generator from the circuit as the car approaches the last said support and for communicating the energy from the generator to the electro-responsive device for operating the last said support, and means for closing the circuit on the car through the battery when the generator is cut out.

15. In a device for the purpose set forth, the combination of a support for carrying or receiving a mail pouch on a car, an electro-responsive device for moving the support to its retracted position, means for locking the support in its retracted position, means for automatically breaking the circuit through said electro-responsive device when the support is in its retracted position, a support for receiving or holding a bag to be delivered arranged along the line of movement of the car, and movable toward and away from the car, an electro-responsive device for moving the last said support, a source of electrical energy on the car including a generator and a battery, means for cutting out the generator from the circuit as the car approaches the last said support and for communicating the energy from the

generator to the electro-responsive device for operating the last said support, means for closing the circuit on the car through the battery when the generator is cut out, and means for releasing the support on the car when the generator is cut out.

16. In a device for the purpose set forth, the combination of a support for carrying or receiving a mail pouch on a car, an electro-responsive device for moving the support to its retracted position, means for locking the support in its retracted position, means for automatically breaking the circuit through said electro-responsive device when the support is in its retracted position, a support for receiving or holding a bag to be delivered arranged along the line of movement of the car, and movable toward and away from the car, an electro-responsive device for moving the last said support, a source of electrical energy on the car including a generator and a battery, a switch in said circuit, electro-responsive means for operating the switch to cut out the generator from the circuit, means for conveying energy to the last said electro-responsive means as the car approaches the last said support, and for conveying energy from the generator to said support, and means operatively related to the switch for closing the circuit through the battery as the switch is operated to cut out the generator.

17. In a device for the purpose set forth, the combination of a support for carrying or receiving a mail pouch on a car, an electro-responsive device for moving the support to its retracted position, means for locking the support in its retracted position, means for automatically breaking the circuit through said electro-responsive device when the support is in its retracted position, a support for receiving or holding a bag to be delivered arranged along the line of movement of the car, and movable toward and away from the car, an electro-responsive device for moving the last said support, a source of electrical energy on the car including a generator and a battery, a switch in said circuit, electro-responsive means for operating the switch to cut out the generator from the circuit, means for conveying energy to the last said electro-responsive means as the car approaches the last said support, and for conveying energy from the generator to said support, means operatively related to the switch for closing the circuit through the battery as the switch is operated to cut out the generator, and means operatively related to the switch for unlocking the support on the car.

18. In a device for the purpose set forth, the combination of magnet means for sustaining a pouch adjacent the track, a car movable on the track, magnetic means on the car for receiving the pouch, a support

also on the car spaced from the magnetic means for sustaining a pouch to be delivered from the car, a source of electric energy on the car for energizing the magnetic means on the car, said magnetic means and support on the car being interchangeable, and means for communicating said energy from the car to the magnetic means adjacent the track as the car approaches.

19. In a device for the purpose set forth, the combination of magnet means for sustaining a pouch adjacent the track, a car movable on the track, magnetic means on the car for receiving the pouch, a support also on the car spaced from the magnetic means for sustaining a pouch to be delivered from the car, a source of electric energy on the car for energizing the magnetic means on the car, said magnetic means and support on the car being interchangeable, and means for communicating said energy from the car to the magnetic means adjacent the track as the car approaches and after the magnetic means on the car passes.

20. In a device for the purpose set forth, the combination of magnetic means for receiving a pouch to be delivered to the car, a source of electric energy on the car for energizing the magnetic means, a standard adjacent the track, a movable support on the standard for sustaining the pouch to be delivered to the car, spaced contacts on the support connected to the electro-responsive means, spaced contacts on the standard adapted to be connected with the contacts on the support when the support is moved to a certain position for energizing the last said electro-responsive means, conductors connected to the contacts on the standard, and means for communicating the energy from the car to the conductors as the car approaches the standard.

21. In a device for the purpose set forth, the combination of magnetic means for receiving a pouch to be delivered to the car, a source of electric energy on the car for energizing the magnetic means, a standard adjacent the track, a movable support on the standard for sustaining the pouch to be delivered to the car, contacts on the support connected with the electro-responsive means, spaced from each other and from the contacts on the standard, movable members arranged between the respective contacts of each pair and adapted to connect said contacts when the support assumes a certain position to energize the last said electro-responsive means, conductors connected to the contacts on the standard, and means for communicating the energy from the car to the conductors as the car approaches the standard.

22. In a device for the purpose set forth, the combination of magnetic means for receiving a pouch to be delivered to the car, a

source of electric energy on the car for energizing the magnetic means, a standard adjacent the track, a movable support on the standard for sustaining the pouch to be delivered to the car, contacts on the support connected with the electro-responsive means, spaced from each other and from the contacts on the standard, movable members arranged between the respective contacts of each pair and adapted to connect said contacts when the support assumes a certain position to energize the last said electro-responsive means, conductors connected to the contacts on the standard, means for communicating the energy from the car to the conductors as the car approaches the standard, and means for disconnecting the contacts when the support is moved out of the said position.

23. In a device for the purpose set forth, the combination of magnetic means for receiving a pouch to be delivered to the car, a source of electric energy on the car for energizing the magnetic means, a standard adjacent the track, a movable support on the standard for sustaining the pouch to be delivered to the car, contacts on the support connected with the electro-responsive means, spaced from each other and from the contacts on the standard, movable members arranged between the respective contacts of each pair and adapted to connect said contacts when the support assumes a certain position to energize the last said electro-responsive means, conductors connected to the contacts on the standard, means for communicating the energy from the car to the conductors as the car approaches the standard, and means for locking the support in its adjusted position when the contacts are connected.

24. In a device for the purpose set forth, the combination of a standard, a support movable on the standard, contacts on the support and on the standard and the contacts on one being spaced from those on the other, an electro-responsive device on the support connected to the contacts thereon, conductors connected with the contacts on the standard, means on the car adapted to communicate electrical energy to the electro-responsive device when the contacts are connected, said support being movable to a position adjacent the path of movement of the car, and means on the car adapted to move the support away from the car to connect the said contacts.

25. In a device for the purpose set forth, the combination of a standard, a support movable on the standard, contacts on the support and on the standard, and the contacts on one being spaced from those on the other, an electro-responsive device on the support connected to the contacts thereon, conductors connected with the contacts on

the standard, means on the car adapted to communicate electrical energy to the electro-responsive device when the contacts are connected, said support being movable to a position adjacent the path of movement of the car, means on the car adapted to move the support away from the car to connect the said contacts, and electro-responsive means arranged in shunt with the electro-responsive means on the car for locking the support against return movement toward the car.

26. In a device for the purpose set forth, the combination of a standard, a support movable on the standard, contacts on the support and on the standard, and the contacts on one being spaced from those on the other, an electro-responsive device on the support connected to the contacts thereon, conductors connected with the contacts on the standard, means on the car adapted to communicate electrical energy to the electro-responsive device when the contacts are connected, said support being movable to a position adjacent the path of movement of the car, means on the car adapted to move the support away from the car to connect the said contacts, a projection on the standard beyond the support, a shouldered pin on the support and means for moving the pin to engage the projection to lock the support against return movement toward the car.

27. In a device for the purpose set forth, the combination of a standard, a support movable on the standard, contacts on the support and on the standard, and the contacts on one being spaced from those on the other, an electro-responsive device on the support connected to the contacts thereon, conductors connected with the contacts on the standard, means on the car adapted to communicate electrical energy to the electro-responsive device when the contacts are connected, said support being movable to a position adjacent the path of movement of the car, means on the car adapted to move the support away from the car to connect the

said contacts, a projection on the standard beyond the support, a shouldered pin on the support, means for moving the pin to engage the projection to lock the support against return movement toward the car, a projection on the standard beyond the support, a shouldered pin on the support and electro-responsive means on the support arranged in shunt with the other electro-responsive device for moving the pin to engage the projection to lock the support against return movement toward the track.

28. In a device for the purpose set forth, the combination of a standard, a support movable on the standard, contacts on the support and on the standard, and the contacts on one being spaced from those on the other, an electro-responsive device on the support connected to the contacts thereon, conductors connected with the contacts on the standard, means on the car adapted to communicate electrical energy to the electro-responsive device when the contacts are connected, said support being movable to a position adjacent the path of movement of the car, means on the car adapted to move the support away from the car to connect the said contacts, a projection on the standard beyond the support, a shouldered pin on the support, means for moving the pin to engage the projection to lock the support against return movement toward the car, a projection on the standard beyond the support, a shouldered pin on the support, means for normally holding the pin in an inactive position, and electro-responsive means on the support arranged in shunt with the other electro-responsive device for moving the pin to engage the projection to lock the support against return movement toward the track.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 3rd day of May A. D. 1909.

CHAUNCEY W. BROUGHTON.

Witnesses:

J. H. JOCHUM, Jr.,

C. H. SEEM.