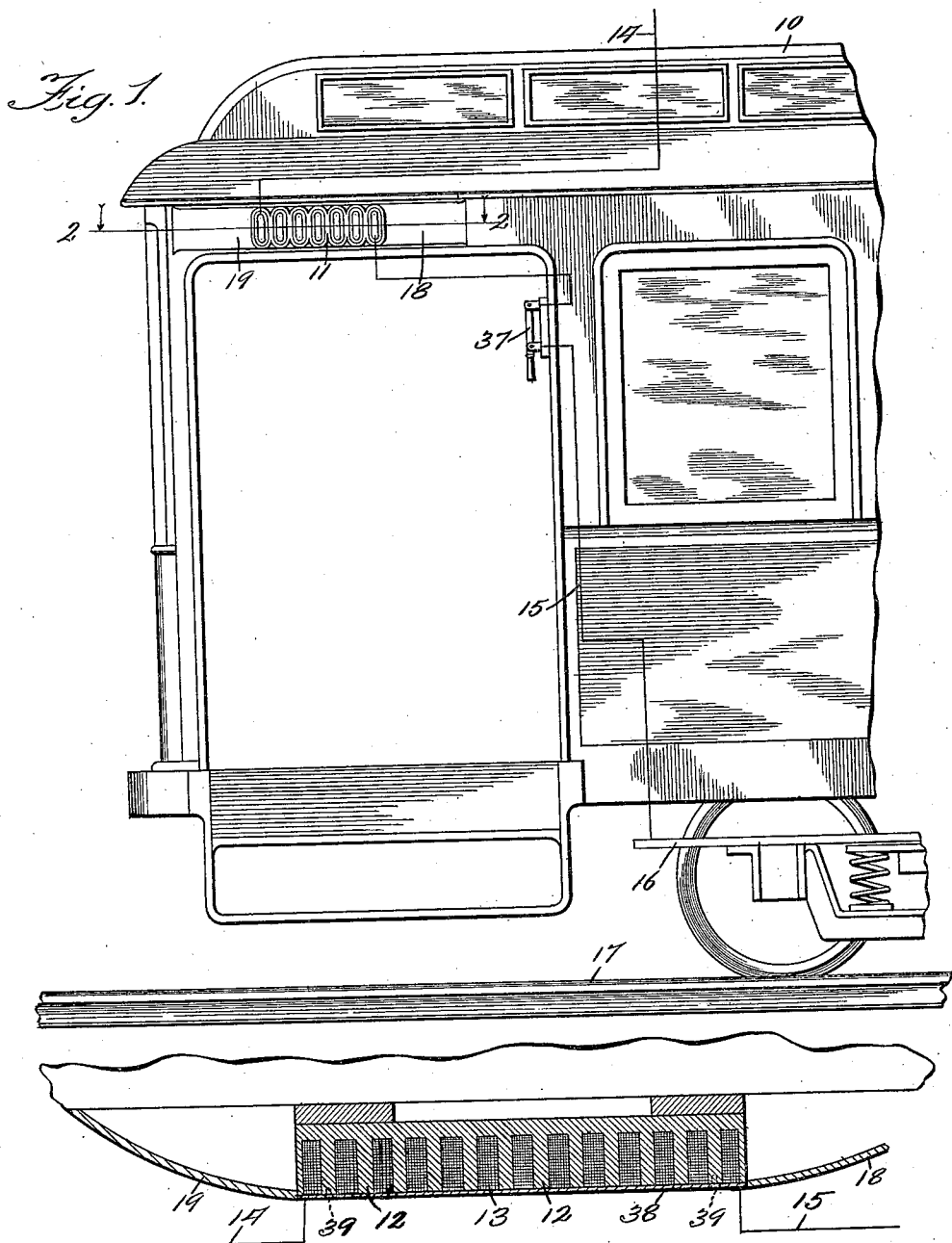


C. W. BROUGHTON & F. D. REYNOLDS.
MAIL RECEIVING APPARATUS.
APPLICATION FILED JULY 5, 1910.

Patented Mar. 28, 1911.

2 SHEETS-SHEET 1.

987,949.



Witnesses:
D. D. Perry
J. A. Gochman, Jr.

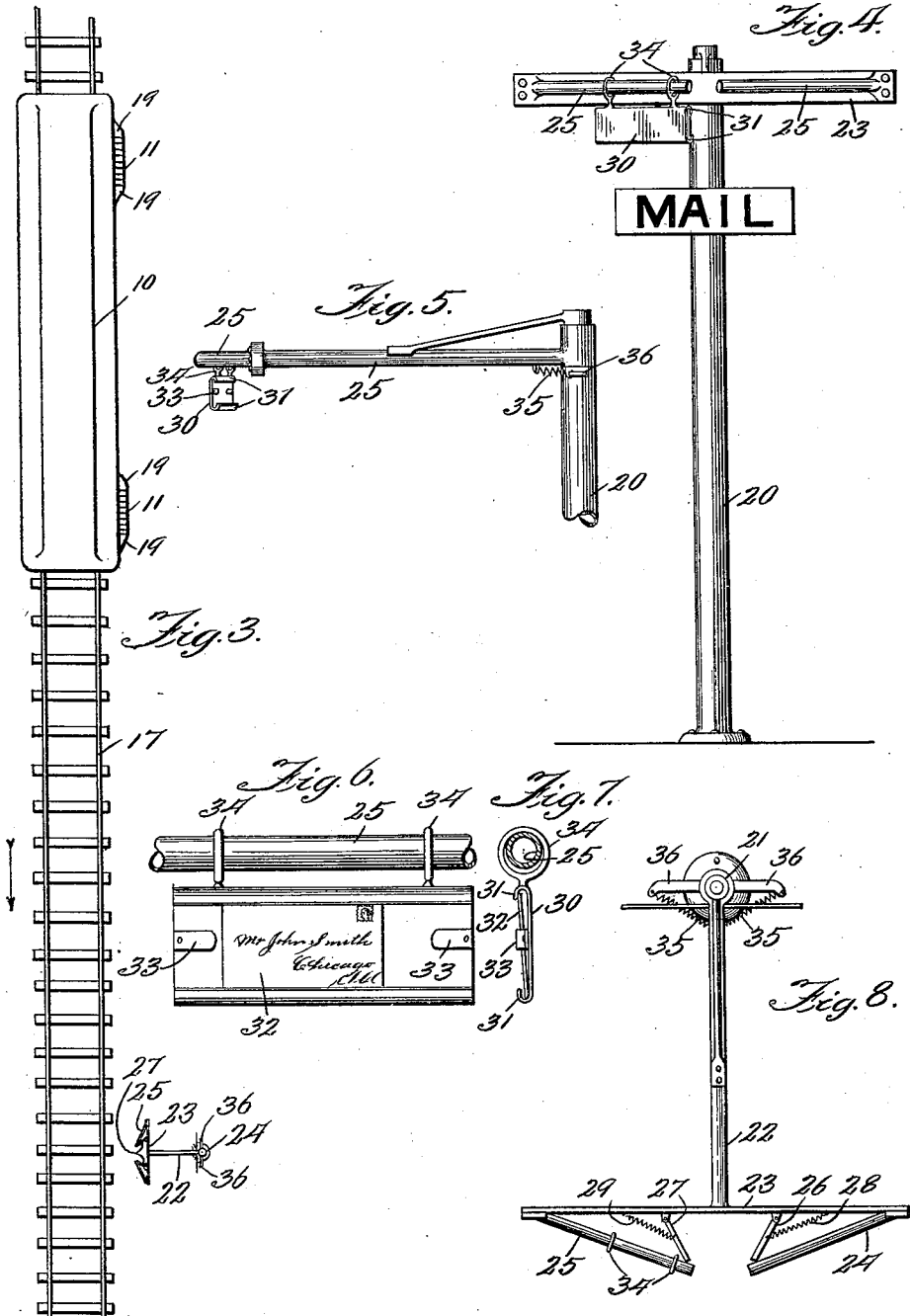
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UNITED STATES PATENT OFFICE.

CHAUNCEY W. BROUGHTON, OF MCGIRR, CARLTON, AND FRED D. REYNOLDS, OF DE KALB, ILLINOIS; SAID REYNOLDS ASSIGNOR TO SAID BROUGHTON.

MAIL-RECEIVING APPARATUS.

987,949.

Specification of Letters Patent.

Patented Mar. 28, 1911.

Application filed July 5, 1910. Serial No. 570,208.

To all whom it may concern:

Be it known that we, CHAUNCEY W. BROUGHTON and FRED D. REYNOLDS, residing, respectively, at McGirr P. O., Carlton, and De Kalb, Dekalb county, Illinois, have invented certain new and useful Improvements in Mail-Receiving Apparatus, of which the following is a specification.

This invention relates to improvements in mail receiving apparatus particularly adapted for use in connection with inter-urban or electric lines whereby mail may be gathered at points along the line as the cars pass and without stopping the cars.

A further object is to provide improved means whereby mail may be collected by cars traveling in opposite directions, along a single track, from the same side of the track and from a common post or delivery stand, and improved means whereby the mail designed for the car traveling in one direction will not be disturbed by the receiving apparatus on the car moving in the opposite direction.

A further object is to provide improved means for shifting the mail delivering stand, by the car and in a direction to move the mail designed for a car moving in the opposite direction, out of a position in which it would be taken by the car moving in the wrong direction.

A further object is to provide improved means whereby the receiving apparatus may be controlled by the motorman and without stopping the car.

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 an elevation of a portion of an interurban or electric car, showing an improved apparatus constructed in accordance with the principles of this invention and applied thereto, with the protector plate removed. Fig. 2 is an enlarged detail sectional view upon line 2—2 of Fig. 1 showing the protector plate in position. Fig. 3 is a

diagrammatic plan view showing a portion of a track, a car moving thereon having this invention applied thereto and the delivery post arranged at the side of the track. Fig. 4 is a detail elevation of the delivery post or stand. Fig. 5 is an enlarged detail elevation of the head of the delivery post or stand, showing a mail receptacle or armature attached thereto and in position to be received by the car. Fig. 6 is an enlarged detail elevation of the mail receptacle or armature. Fig. 7 is an end elevation of Fig. 6. Fig. 8 is an enlarged detail top plan view of the delivery stand.

Referring more particularly to the drawings and to the present exemplification of the invention, the numeral 10 designates the car secured to the side of which, preferably adjacent one end and near the roof thereof, is the receiving apparatus 11 which is in the form of a magnet provided with a plurality of cores or pole pieces 12 having the usual windings 13 one end 14 of which is connected to a trolley or conductor wire while the other end extends into a conductor 15 having a ground contact preferably through the truck 16 to the rail 17. The magnet 11 may be of any desired length and is provided with any number of pole pieces or cores and these pole pieces or cores are wound in series extending lengthwise of the line of travel of the car. Secured also to the side of the car and adjacent end of the series of magnets are shields or deflectors 18, 19 which are preferably curved or inclined, as shown, and extend from a point adjacent the outer face of the end cores inwardly toward the side of the car, as shown, and for a purpose to be set forth.

Arranged at any suitable point along the line of travel of a car and adjacent one side of the track 17 are any number of posts or supports 20, and as the construction and operation of all of these supports are the same, the description of one will apply to them all. The support 20 is provided with a rotatable head 21 projecting laterally from which is an arm 22 of any desired length and the cross arm 23 is secured to the extremity of the arm 22 and extends transversely with respect thereto. This cross arm 23 may be of any desired length and se-

cured to the extremities thereof are arms 24, 25. These arms incline outwardly from the extremities of the cross arm 23 toward each other and away from the cross arm. The 5 extremities of the arm 24, 25 terminate short of each other. Pivotally supported members 26, 27 are mounted upon the cross arm 23 and cooperate respectively with the free extremities of the arms 24, 25 and elastic 10 members 28, 29 are also provided which tend normally to hold the free extremities of the members 26, 27 adjacent the extremities of the respective arms 24, 25, for a purpose to be set forth.

15 The mail receptacle is preferably in the form of an armature 30 with flanges 31 which cooperate with each other and are adapted to receive the mail 32. Suitable fastening devices 33 preferably in the form 20 of clips are provided for holding the mail against accidental displacement. The armature or mail receptacle 30 may be supported on the arms 24, 25 in any suitable manner so that it may readily be removed and for 25 this purpose spaced eyes or loops 34 are provided through which the arm 25 projects. After the mail has been inserted in the holder or armature, the latter is placed upon one of the arms, for instance the arm 30 25, by shifting the member 27 so as to permit the arm 25 to be readily inserted into the loops or eyes 34, after which the member 27 is released and the elastic member 29 will move the latter into a position to 35 lock or hold the armature against accidental displacement.

The mail receptacle or armature 30 is placed upon the arm 25 in such a manner that the back thereof will be presented to 40 the car, as shown more clearly in Figs. 4 and 5, and the arm 22 is held projected in a direction toward the track 17 in any suitable manner, preferably by means of elastic members 35 which are secured to the sides 45 of the arm 22 and also to projections 36 on the post.

The magnets or receiving apparatus 11 on the car may be controlled in any desired or suitable manner, preferably by means of 50 a switch 37 arranged in the conductor 15 and in a position convenient for the motorman.

In operation and after the mail 32 has been placed in the holder or armature 30, the latter is placed upon one of the arms 24, 25, according to which of the cars it is desired to deliver the mail, say for instance a 55 west bound train or a train moving in the direction indicated by the arrow in Fig. 3. In this event the mail receptacle and armature will be placed upon the arm 25, as shown in Fig. 8. As the car approaches the delivery stand, the motor-man closes the 60 switch 37 to energize the series of magnets 11 and as the car approaches the stand, the armature 30 will be attracted by the pole

pieces 12 of the magnet and when the armature has become saturated it will adhere to the pole pieces. As the car advances, the armature containing the mail will be drawn 70 off of the arm 25, the member 27 yielding to permit of such removal. During the advancing movement of the car and when the armature 30 is attracted by the magnets, the movement of the car will tend to swing the 75 arm 22 about its point of pivotal support so that the arm 25 will travel a short distance with the car. After the car has passed, the elastic members 25 will return the arm 22 to its normal position.

In the event that mail should be placed 80 upon the delivery stand to be delivered to a train moving in a west bound direction, it will be apparent that some difficulty might arise in the event that an east 85 bound train should pass the post before the west bound train arrives and takes the mail therefrom. In order to avoid any such trouble, the arm 22 is mounted for pivotal movement and the deflectors 18 and 19 are 90 provided. If the mail is supported upon the arm 25, as shown in Fig. 8, and a car should approach in a direction from the arm 24 toward the arm 25, one of the deflectors 18 and 19 will engage the arm 24 and will 95 swing the arm 22 about its point of pivotal support thereby moving the arm 25, which supports the armature or mail receptacle 30, away from the track and out of a position in which it might be attracted by the arma- 100 ture on the east bound train. Obviously if mail is placed on the delivery stand for a west bound train and an east bound train should first approach, the arm 22 will be swung in the opposite direction in a similar 105 manner.

As the car approaches, the end most magnets or cores, or the cores at the end of the car first approaching the mail receptacle will first act upon the armature and by the 110 time the car has advanced sufficiently to permit one or two of the end cores to pass into engagement with the armature, the latter will be stripped from the supporting arm and will adhere to the magnet 11. When 115 the armature is thus saturated and adheres to the magnet, it will remain in this position until the magnets are deenergized by opening the switch 37. This switch 37 being arranged in a convenient position for the motor- 120 man, may be operated by him at any convenient time. If the mail has been received by the receiving apparatus at a time when the motor-man is busily engaged and cannot release his controller, it will be apparent 125 that as long as the magnets are energized the armature will adhere thereto. This will permit the motor-man to release the armature at a convenient time, and before he reaches another delivery apparatus from 130 which mail is to be received.

If desired a non-magnetic protector 38 may be provided for the faces of the magnet cores 12 and this plate is removably secured in position in any suitable manner as shown in Fig. 2.

What is claimed as new is—

1. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a support arranged at the side of the line of movement of the car for supporting the armature in position to be delivered to the car, and a series of magnets mounted upon the car and adapted to successively act upon the armature for receiving and removing the latter from the support.

2. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a support arranged at the side of the line of movement of the car for supporting the armature in position to be delivered to the car, a series of magnets mounted upon the car and adapted to successively act upon the armature for receiving and removing the latter from the support, and means under the control of the motor-man for controlling the said magnets.

3. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets supported by the car and adapted to successively act upon the armature, and means for shifting the armature support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car.

4. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets supported by the car and wound in series extending lengthwise of the track, and means for shifting the armature support to move an armature to be delivered to another car to a position where it will not be acted upon by the magnets on a passing car.

5. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, means for preventing accidental disengagement of the armature from the support, a plurality of magnets supported by the car arranged in series extending lengthwise of the track, and means for shift-

ing the armature support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car.

6. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, means for preventing accidental disengagement of the armature from the support, a plurality of magnets supported by the car and arranged in series extending lengthwise of the track, means for shifting the armature support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car, and means for returning the support after a car has passed.

7. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets on the car arranged in series extending lengthwise of the track and adapted to receive the armature, and means on the car adapted to engage and shift the armature support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car.

8. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets on the car arranged in series extending lengthwise of the track and adapted to receive the armature, and means on the car arranged at the ends of the series of magnets and adapted to engage and shift the armature support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car.

9. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets on the car arranged in series extending lengthwise of the track and adapted to receive the armature, and inclined deflectors arranged at the ends of the series and extending from points adjacent the faces of the magnets toward the car and adapted to engage and shift the support to move an armature to

be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car.

10. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets on the car arranged in series extending lengthwise of the track and adapted to receive the armature, inclined deflectors arranged at the ends of the series and extending from points adjacent the faces of the magnets toward the car and adapted to engage and shift the support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car, and means for controlling the magnets at will.

11. In an apparatus for the purpose set forth, the combination of an armature adapted for holding mail, a pivoted support arranged at the side of the line of movement of the car for holding an armature in position to be delivered to a car moving in either direction, a plurality of magnets on the car arranged in series extending lengthwise of the track and adapted to receive the armature, inclined deflectors arranged at the ends of the series and extending from points adjacent the faces of the magnets toward the car and adapted to engage and shift the support to move an armature to be delivered to another car, to a position where it will not be acted upon by the magnets on a passing car, means for energizing the magnets, and means for controlling the magnets at will.

12. An armature for mail delivering apparatus, comprising a body and a support formed thereon for receiving the mail.

13. An armature for mail delivering apparatus, comprising a body, a support formed thereon for receiving the mail and means for securing the mail against displacement.

14. A mail support comprising a body provided with a portion serving as an armature, portions of the support being shaped to form a mail receptacle, and means for suspending the support.

15. A mail support comprising a body provided with a portion serving as an armature, portions of the support being shaped to form a mail receptacle, means for suspend-

ing the support, and a fastening device for securing the mail against displacement.

16. A mail support comprising a body, a portion of which serves as an armature, flanges extending beyond one face thereof and between which the mail is adapted to be placed, a fastening device for securing the mail in place, and suspension means for the support.

17. A mail support comprising a body, opposite edges of which are shaped to form flanges between which the mail is adapted to be inserted, and suspension members connected to the body and projecting beyond the edge thereof and adapted to engage a support, a portion of the body serving as an armature.

18. A mail support comprising a body, opposite edges of which are shaped to form flanges between which the mail is adapted to be inserted, suspension members connected to the body and projecting beyond the edge thereof and adapted to engage a support, a portion of the body serving as an armature, and a fastening device on the body for securing the mail between the flanges.

19. A mail support comprising a body, opposite edges of which are shaped to form flanges between which the mail is adapted to be inserted, the edges of the body between the flanges being open to permit the mail to be inserted and removed, and suspension devices secured to the body and projecting therebeyond and adapted to engage a support, a portion of the body serving as an armature.

20. A mail support comprising a body, opposite edges of which are shaped to form flanges between which the mail is adapted to be inserted, the edges of the body between the flanges being open to permit the mail to be inserted and removed, suspension devices secured to the body and projecting therebeyond and adapted to engage a support, a portion of the body serving as an armature, and fastening devices secured to the body beyond the flanges.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 30th day of June, A. D. 1910.

CHAUNCEY W. BROUGHTON.
FRED D. REYNOLDS.

Witnesses:

J. H. JOCHUM, Jr.,
A. O. KNIGHT.