

C. O. BIRNEY.

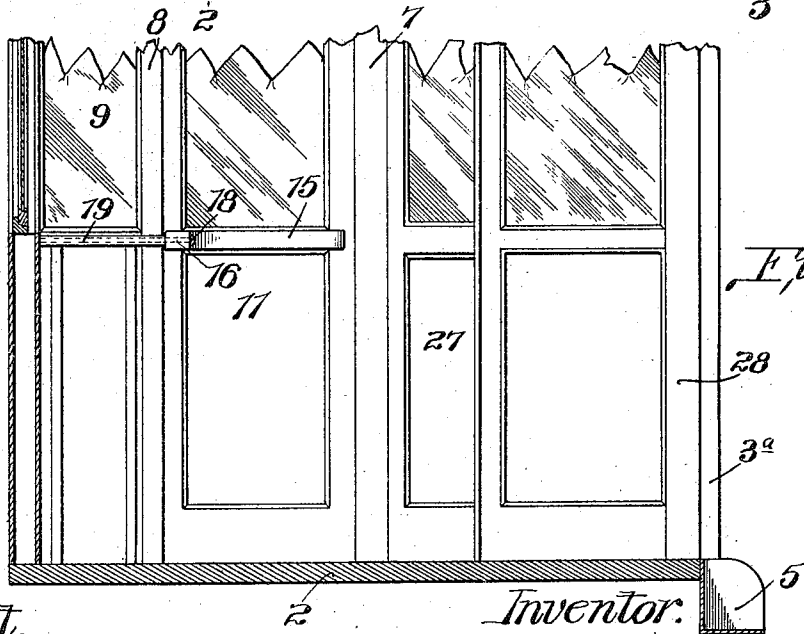
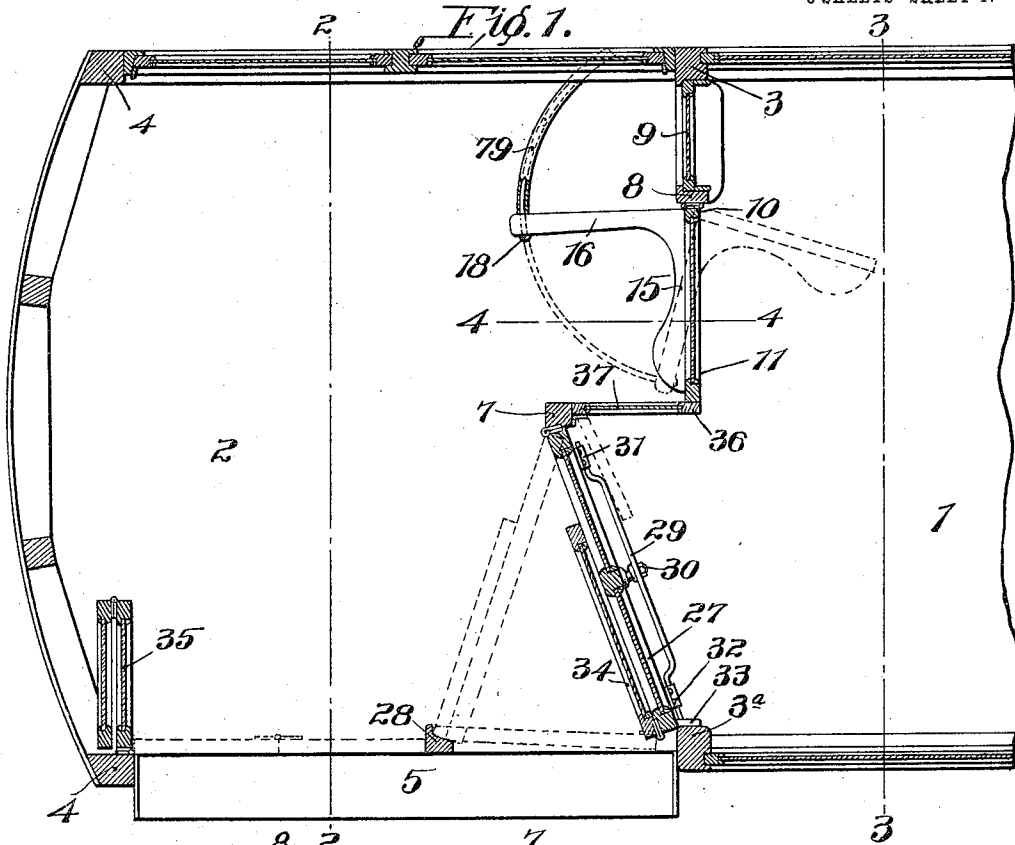
STREET CAR.

APPLICATION FILED MAR. 16, 1908.

Patented Feb. 22, 1910.

949,877.

3 SHEETS—SHEET 1.



Attest.

Edgar T. Farmer
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Inventor.

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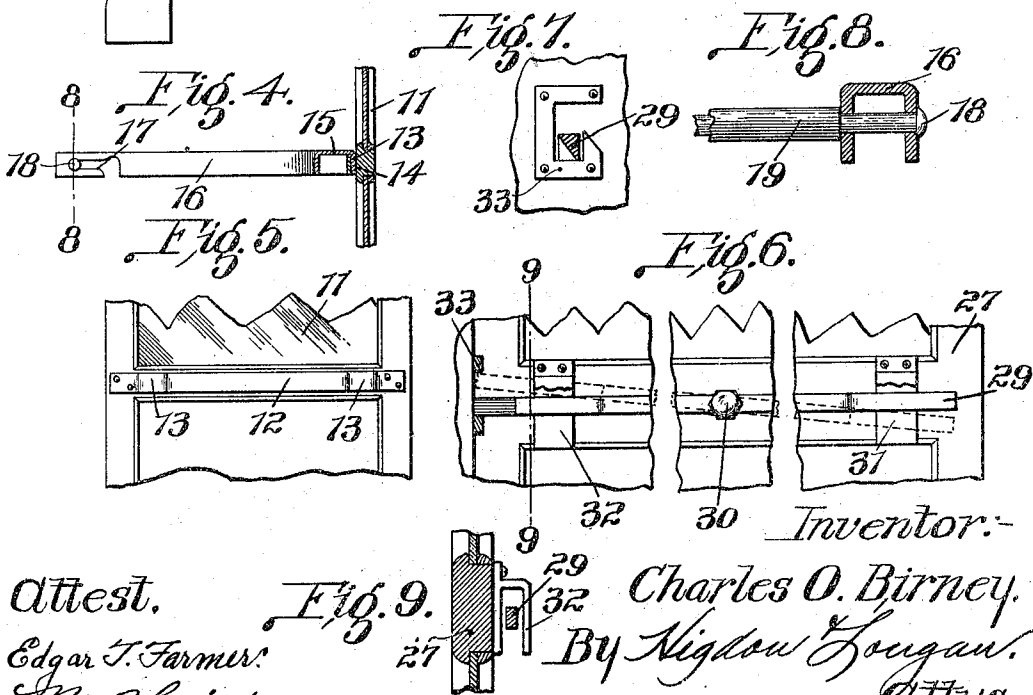
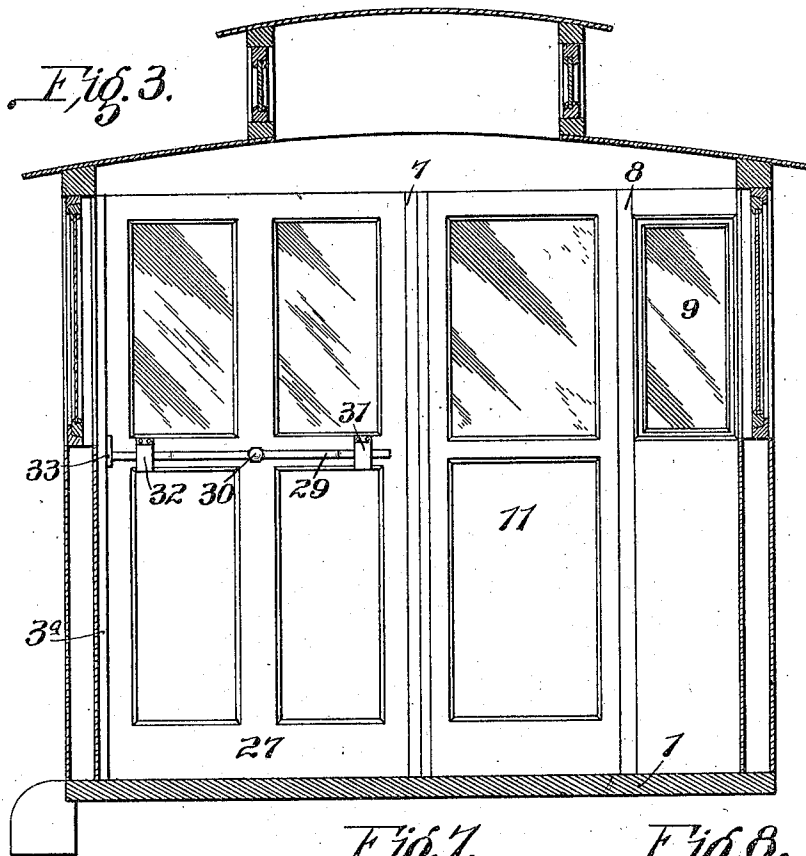
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3 SHEETS—SHEET 2.

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Fig. 9.



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3 SHEETS—SHEET 3.

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Fig. 10.

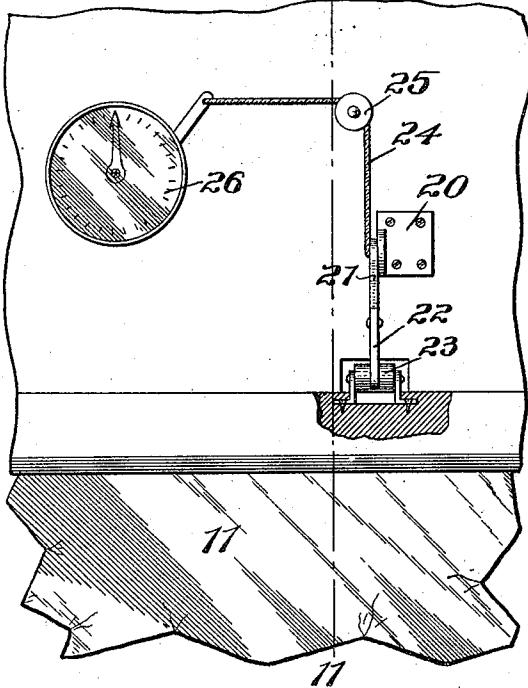


Fig. 11.

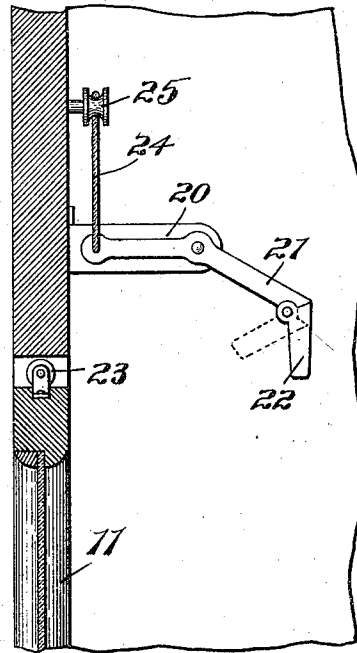


Fig. 12.

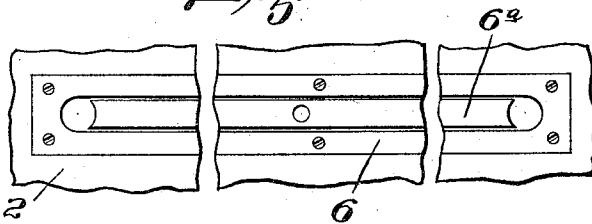


Fig. 13.

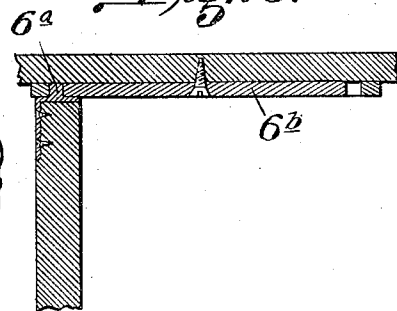
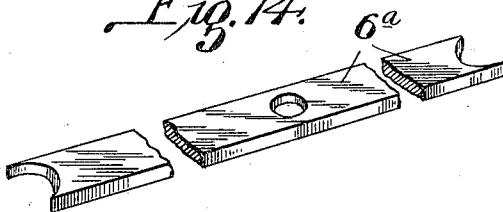


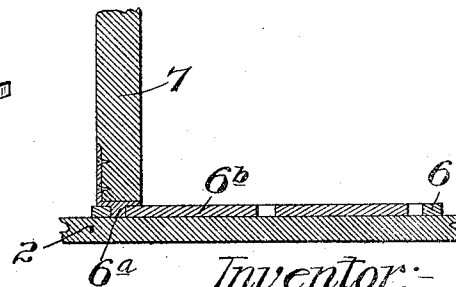
Fig. 14.



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UNITED STATES PATENT OFFICE.

CHARLES O. BIRNEY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE PAY-AS-YOU-ENTER CAR CORPORATION, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

STREET-CAR.

949,877.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed March 16, 1908. Serial No. 421,323.

To all whom it may concern:

Be it known that I, CHARLES O. BIRNEY, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Street-Cars, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates generally to street cars, and more particularly to the car platform and entrance, my object being to construct a car or car platform embodying what is commonly known as the pay-as-you-enter principle, which arrangement necessitates the provision of entrance and exit doors between the platform and body of the car, thus permitting all of the passengers entering the car to pass through one door and to pass through a second door without leaving the car, and the conductor being adjacent the entrance door, where he has full view of the entire platform, and is therefore in position to properly signal the motor-man or car driver.

A further object of my invention is to provide an entrance door which allows but one person to enter the car at a time, and which door automatically operates the fare register carried by the car.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a horizontal section taken through the center of one end of a car body and platform constructed in accordance with my invention; Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1; Fig. 3 is a transverse section taken approximately on the line 3—3 of Fig. 1; Fig. 4 is an enlarged detail section taken on the line 4—4 of Fig. 1; Fig. 5 is an elevation of the central portion of the entrance door, and showing a strap arranged thereon; Fig. 6 is an elevation of the central portion of the exit door, and showing a latch thereon; Fig. 7 is a detail view showing in elevation the keeper utilized for receiving the end of the latch seen in Fig. 6; Fig. 8 is an enlarged detail section taken on the line 8—8 of Fig. 4; Fig. 9 is a vertical section taken on the line 9—9 of

Fig. 6; Fig. 10 is an elevation of the fare register and the mechanism actuated by the entrance door for operating said register; Fig. 11 is a vertical section taken on the line 11—11 of Fig. 10; Fig. 12 is a plan view of one of a pair of slotted plates which receive the ends of a movable post on the car platform; Fig. 13 is a detail section showing these plates in position on the car platform and the hood with the movable post in position between said plates; and Fig. 14 is a perspective view of a filler block used in connection with these slotted plates.

Referring by numerals to the accompanying drawings: 1 designates the car body and 2 the platform thereof, and arranged between the body and platform are the usual corner posts 3 and 3^a.

Arranged at the outer corners of the platform 2 are the vestibule posts 4, and arranged at the side of the platform between one of said posts 4 and the post 3^a is a step 5.

Positioned on the car platform, approximately half way between the posts 3 and 3^a, and in the under side of the platform hood, are longitudinally disposed slotted plates 6, in which engage lugs or pins 6^a, carried on the ends of a vertically disposed exit door post 7, and normally positioned in the slots in the plates 6 are filler blocks or plates 6^b. This arrangement permits the exit door post 7 to be shifted from one position to another on the platform, and which arrangement is necessary where both ends of the car are alike in construction.

Located a short distance from the corner post 3 is an entrance door post 8, and arranged between said post and the corner post 3 is a window 9.

Connected by means of a double acting hinge 10 to the post 8 is an entrance door 11, and transversely arranged on the outside thereof is a plate 12, in which is formed a pair of vertically disposed loops 13. Detachably positioned in these loops 13 are hooks 14, formed integral with the rear side of a horizontally disposed rail 15, with one end of which is formed integral a horizontally disposed arm 16, arranged at approximate right angles to said rail 15, and formed in the under side of this arm 16 is a horizontally disposed open ended notch 17. Detachably arranged in this notch 17 is one

end of a curved rod 18, the body of which projects laterally and normally occupies a curved tube 19, the outer end of which is seated in the side of the vestibule, between the corner post 3 and the adjacent corner post 4.

Positioned on the head rail immediately above the door 11 is a bracket 20, and pivoted thereto is a horizontally disposed lever 21, to the forward end of which is hinged a depending finger 22, the same being arranged so as to swing free in one direction, and fixed on the top of the door and adapted to engage the lower end of this finger 22 is one end of a cable 24, which passes over a grooved pulley 25, the opposite end of said cable being secured to the operating lever or arm of the fare register 26.

Hinged to the post 7 is an exit door 27, the free edge of which normally closes against the post 3^a, and this edge of the door is adapted to swing against the post 28, located on the edge of the platform, between the posts 3^a and 4, when said door is opened to allow the exit of passengers.

29 designates a horizontally disposed hand rail and latch bar, which is pivotally arranged at its center upon a pin 30 seated in the door, and the inner end of said rail and latch bar is held for operation beneath a keeper 31, fixed to the face of the door 27 adjacent the hinged side thereof. The outer portion of the combined rail and latch 29 operates beneath a keeper 32, and the extreme outer end of said rail and bar normally engages in a keeper 33, fixed to the inside of the corner post 3^a.

Hinged to the free edge of the exit door 27 and normally lying against the outer face thereof, is a door 34, the free edge of which is adapted to swing into position against the post 28, when the entrance and exit doors at the opposite end of the car are in use. This door 34, when swung against the post 28, closes that portion of the platform between the posts 3^a and 28, and the space between the post 28 and the adjacent post 4 is closed by a pair of doors 35, one of which is hinged to said corner post 4.

Hinged to the post 7, and normally closing the space between said post and the free edge of the entrance door 11 is a door 36, the upper portion of which is fitted with a drop sash 37, which permits the conductor to receive the fares of the passengers entering the car through the door opening normally closed by the entrance door 11.

When a car of my improved construction is in use, the passengers entering the car pass between the posts 4 and 28, and move from thence to a position immediately in front of the entrance door 11. After the passenger's fare is paid to the conductor through the opening normally closed by the

drop sash 37, the passenger pushes the door 11 forward, as shown by dotted lines in Fig. 1, thus entering the car, and as the door is thus swung open, the arm 16 is drawn around to the rear of the passenger, and in so doing the curved rod 18 is drawn out of the tube 19, as shown by dotted lines in Fig. 1, thus preventing two or more passengers from entering the car at the same time, and also preventing crowding at the entrance door. As the entrance door is swung open, the roller 23 on the top of said door engages the lower end of the finger 22, and in so doing actuates the lever 21 to move the rear end of the same downward, thus pulling on the cable 24 and actuating the lever of the fare register 26, and after the passenger has entered the car the double acting spring hinges 10 return the entrance door to its normal position, and in so doing the roller 23 engages the lower end of the finger 22 and swings the same upward, as shown by dotted lines in Fig. 11, without actuating the fare register. Normally the exit door 27 is closed, with the free edge against the post 3^a, and when a passenger desires to leave the car, the conductor stationed adjacent the hinged side of said exit door engages the inner end of the combined hand rail and latch bar 29, and moves the same downward, which action swings said rail and bar on the pivot pin 30, and raises the outer end of said rail and bar into position immediately opposite the opening into the keeper 33, and the exit door is now swung into an open position with its outer edge against the post 28, as shown by dotted lines in Fig. 1, and the passenger now leaves the car by passing between the posts 3^a and 28.

The rail 15 is made removable in order that it may be quickly transferred from one end of the car to the other, thus permitting either end of the car to be utilized by the passengers in entering and departing from the car, and to close either end of the car when the opposite end is being used as an entrance and exit, the doors 34 and 35 are provided for closing the side of the platform on which the motorman or car driver is stationed.

When the platform is to be occupied by the motorman or car driver, the arm 15 and parts carried thereby is transferred to the rear end of the car, and the door 36 is now swung against the inside of the exit door 27, as shown by dotted lines in Fig. 1; after which the filler plates 6^a are removed from the slotted plates 6, and the post 7 is moved to a point directly between the corner posts 3 and 3^a, with the pins 6^a engaging in the rear ends of the slots in the plates 6, after which the filler plates are inserted in said slots, and thus the entire space on the car platform can be utilized.

A car of my improved construction is

comparatively simple, provides means whereby passengers entering and leaving the car pass through separate doors, thereby avoiding confusion and crowding, and provision is made whereby the conductor remains at a fixed station, where he may readily receive the fares of all the passengers entering the car, and where he is in position to see the movements of the passengers getting on and off the car, and can therefore properly signal the motorman or car driver without danger of injury to passengers in the act of getting on or off the car.

An entrance door constructed in accordance with my invention and provided with means which permits the entrance of but one passenger at a time may be advantageously employed at other points than a street car; for instance, at the entrances to railway stations, and theaters, and the like. I claim:

1. The combination with the hinged entrance door of a street car, of an arm applied to the door and projecting away from the face thereof over the car platform, and a curved rod applied to the outer end of the arm and projecting laterally from the end thereof.

2. The combination with the hinged entrance door of a street car, of an arm applied to the door and projecting away from the face thereof over the car platform, a curved rod applied to the outer end of the arm and projecting laterally from the end thereof, and a curved tube fixed to the side of the car and forming a housing for the curved rod.

3. The combination with the entrance door of a street car, of a rail detachably applied to the face of the door, an arm integral with one end of the rail, and a curved rod detachably secured to the outer end of the arm and projecting laterally therefrom.

4. The combination with a street car of a post arranged on the car platform between the corner posts of the car body, an entrance door arranged to one side of the post, an exit door hinged to said post on the opposite side from the entrance door, and a door hinged to the first mentioned post, which last mentioned door when closed occupies a position parallel with the sides of the car.

5. The combination with a street car of a post arranged on the car platform between the corner posts of the car body, an entrance door arranged to one side of the post, an exit door hinged to said post on the opposite side from the entrance door, means whereby the exit door is normally latched to one of the corner posts of the car body, and a door hinged to the first mentioned post, which last mentioned door when closed occupies a position parallel with the sides of the car.

6. The combination with a car of an exit

door arranged at one end of the car and adapted to normally close a portion of the space between the car body and the platform, an entrance door arranged adjacent the exit door and adapted to close a portion of the space between the car body and the platform, and means arranged on the outside of the entrance door for permitting the entrance of but one passenger at a time.

7. The combination with a car of an exit door arranged at one end thereof between the car body and the platform, an entrance door arranged adjacent the exit door, means detachably applied to the outside of the entrance door for permitting the entrance of but one passenger at a time, a fare register arranged adjacent the entrance door, and means operated by an inward movement of the entrance door for actuating the fare register.

8. The combination with a car body and its platform of a movable post arranged on the car platform adjacent the end of the car body, an exit door hinged to said post and adapted to close against one of the corner posts of the car body, a centrally arranged door hinged to the post and lying parallel with the sides of the car, and an entrance door arranged between the car body and platform on the opposite side of the car from the exit door, and the free edge of the entrance door adapted to close against the free edge of the centrally arranged door.

9. The combination with a car body and its platform of a movable post arranged on the car platform adjacent the end of the car body, an exit door hinged to said post and adapted to close against one of the corner posts of the car body, a centrally arranged door hinged to the post and lying parallel with the sides of the car, an entrance door arranged between the car body and platform on the opposite side of the car from the exit door and the free edge of the entrance door adapted to close against the free edge of the centrally arranged door, and means applied to the outside of the entrance door for permitting the entrance of but one passenger at a time.

10. The combination with a car body and its platform of a movable post arranged on the car platform adjacent the end of the car body, an exit door hinged to said post and adapted to close against one of the corner posts of the car body, a centrally arranged door hinged to the post and lying parallel with the sides of the car, an entrance door arranged between the car body and platform on the opposite side of the car from the exit door and the free edge of the entrance door adapted to close against the free edge of the centrally arranged door, means applied to the outside of the entrance door for permitting the entrance of but one passenger at a time, a register arranged

adjacent the entrance door, and means operated by the inward movement of the entrance door for actuating said register.

11. The combination with a street car of a post arranged on the car platform between the corner posts of the car body, an exit door hinged to said post and adapted to swing against one of the corner posts of the car body, and a vestibule door hinged to the free edge of the exit door and adapted to close a portion of the space at the side of the car platform.

12. The combination with a street car of a post arranged on the car platform between the corner posts of the car body, an entrance door arranged to one side of the post, an exit door hinged to said post on the opposite side from the entrance door, and a vestibule door hinged to the free edge of the exit door and adapted to close a portion of the space at the side of the car platform.

13. The combination with a car of an entrance door arranged at one end thereof, between the car body and the platform, means adjustably applied to the outside of the entrance door for permitting the entrance of but one passenger at a time, a post positioned on the car platform adjacent the free edge of the entrance door, an exit door hinged to the post and adapted to close against one of the corner posts of the car body, and a vestibule door hinged to the free edge of the exit door and adapted to close a portion of the space at the side of the car platform.

14. The combination with a street car, of a post adjustably arranged on the car platform between the corner posts of the car body, an exit door hinged to said post and adapted to swing against one of the corner posts of the car body, and means carried by said exit door whereby the same may be latched to the corner post of the car.

15. The combination with a street car of a post arranged to move longitudinally on the car platform, means fixed on the car platform and car hood in which the ends of the movable post engage, and an exit door hinged to said post, the free edge of which door is adapted to swing against one of the corner posts of the car body.

16. In a passenger car the combination of the platform and body with a communicating opening between them, of a passenger barrier hinged on an axis central of the platform and having its free edge in position to cooperate with one wall of the opening between the platform and body to bar the entry of passengers, said free edge being adapted to swing outwardly to permit the exit of passengers through the side opening of the platform in proximity to the side of the car.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

CHARLES O. BIRNEY.

Witnesses:

M. P. SMITH,
E. L. WALLACE.