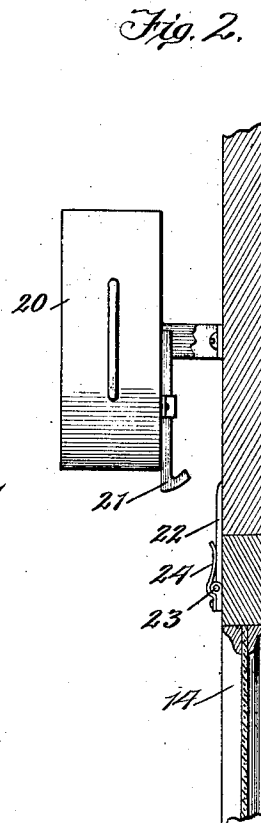
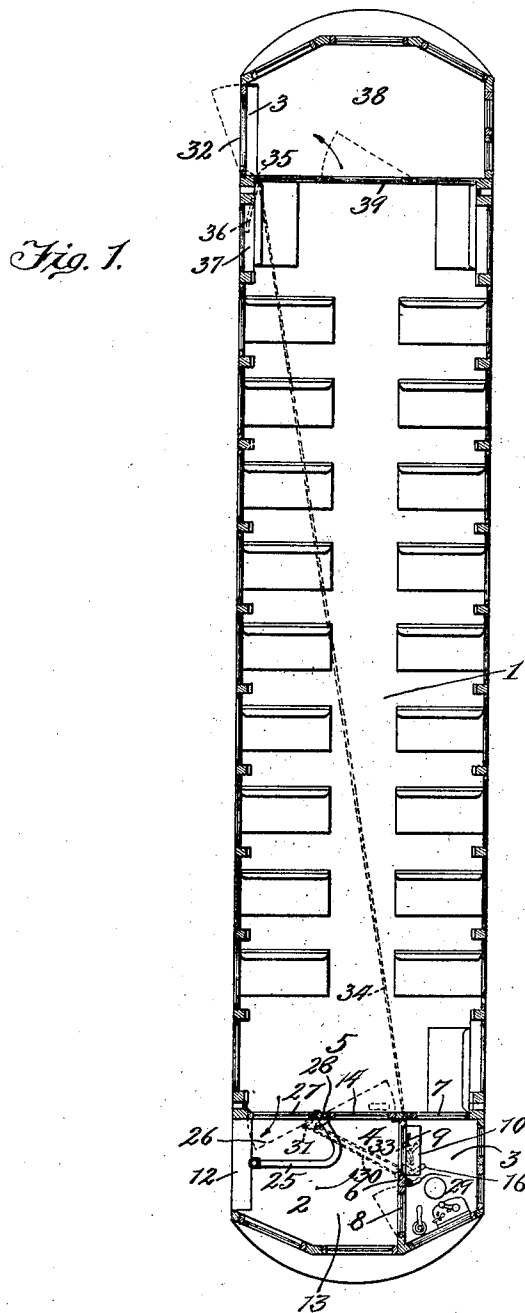


L. E. FISCHER.
PASSENGER CAR.
APPLICATION FILED DEC. 11, 1908.

1,016,683

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.



Witnesses:
Ed. Perry
Albert J. Sausser

Inventor:
Louis E. Fischer
By *George W. Benton*
Attorney

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Fig. 3.

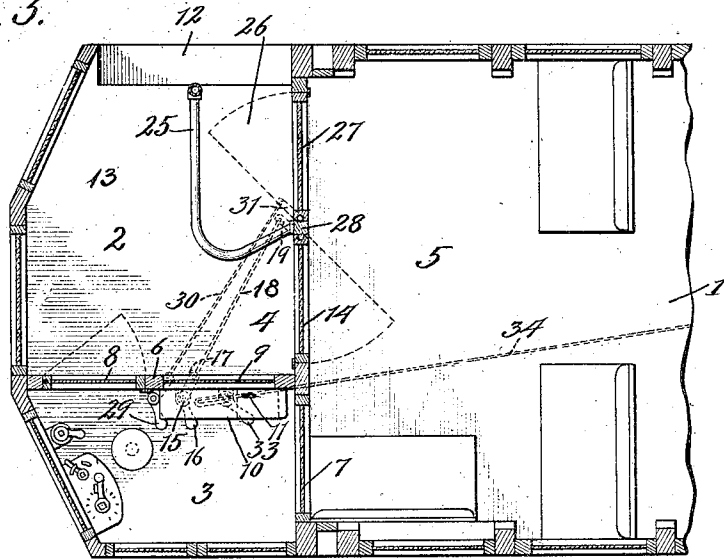
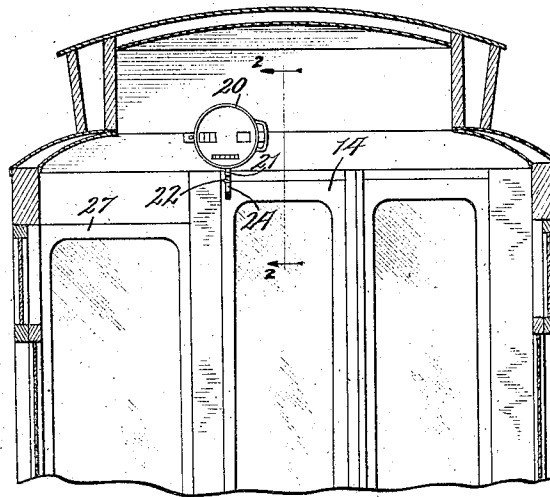


Fig. 4.



Witnesses:

Ed. D. Perry

Albert J. Lunsford

Inventor:

Louis E. Fischer

By George W. Burton
Attorney.

UNITED STATES PATENT OFFICE.

LOUIS E. FISCHER, OF DANVILLE, ILLINOIS, ASSIGNOR TO WILLIS C. DUNBAR, OF PHILADELPHIA, PENNSYLVANIA.

PASSENGER-CAR.

1,016,683.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS E. FISCHER, residing at Danville, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Passenger-Cars, of which the following is a specification.

My invention relates to passenger cars and is designed more particularly for use in connection with street railway cars.

The objects of the invention are, first, to provide a car having adjacent ingress and egress passages which may be controlled by an officer stationed near one of said passages and in a position which will permit him to observe the passengers as they enter and leave the car; second, to so arrange the ingress passage that the passengers entering the car will pass close to the officer's station, thereby enabling him to collect the fares as the passengers enter the car, whatever, if any, may be his other duties; third, to arrange the ingress and egress passages at the front end of the car adjacent to the station of the motorman or other officer who may also have control of the motive power; to provide closures for preventing ingress and egress, respectively, through said passages which may be controlled by said motorman or other officer from his station and to so arrange the ingress passage that the passengers entering the car will be obliged to pass close to the motorman's station, thus enabling the motorman to collect the fares and in such case placing the car entirely under the control of the motorman and eliminating the conductor or second officer usually employed; and fourth, to provide the rear portion of the car with a single passage leading to the exterior thereof and having a closure under the control of an officer at the front end of the car, thereby enabling the rear end of the car to be maintained normally closed and to be opened from the front of the car in the case of an emergency. To obtain these several objects the car is provided with an officer's section which is usually located at the forward end of the car and in front of the passengers' section, which latter occupies the major portion of the car. Ingress and egress passages extend from the passengers' section to the exterior of the car at one side of the officer's section and are separated one from the other by a suitable dividing

structure. The passages are provided with closures which may be controlled from the officer's section to permit or prevent the passage of persons to and from the car. An officer's station is arranged at a point adjacent to the ingress passage and in such relation thereto that the officer occupying the same can collect the fares from the passengers as they enter the car. When it is desired to place the car entirely in the control of a single officer the motive power controlling devices and the passage controlling devices are placed adjacent to the officer's station and he is thus enabled to control the movements of the car and the entrance and exit of passengers therefrom and to collect the fares from the passengers as they enter the car. The rear portion of the car is preferably closed and provided with an emergency exit which has a closure operable from the officer's section of the car to permit the exit of passengers from the car. This construction of the car results in the placing of the entrance and exit of passengers to and from the car under the direct observation of an officer on the car and minimizes the danger of injury to passengers boarding or alighting from the car. This is especially true when the officer having control of the ingress and egress passages also has control of the motive power.

My invention will be more readily understood in connection with the accompanying drawings, in which—

Figure 1 is a top plan view of a car embodying my invention after removal of top; Fig. 2 is an enlarged sectional view taken from plane 2—2 of Fig. 4; Fig. 3 shows in horizontal section the forward portion of the car; Fig. 4 is a view partly in vertical section, taken transversely of car just back of doorways from and to front platform.

In these drawings I have shown, for the purposes of illustration, one embodiment of my invention, and, as here shown, the reference numeral 1 indicates a car body supported upon the usual trucks and normally closed at one end. The car body is provided at that end opposite the closed end, which, in the present arrangement, is the forward end of the car, with an officer's section, such as a platform 2. The car also has in the forward portion thereof and usually upon the platform 2 an officer's station which, in the present instance, is ar-

ranged at the left hand side of the officer's section and has the motive power controlling devices arranged in a position to be operated by the officer from his station. The station may, if desired, be separated from the remainder of the platform or officer's section, and, as here shown, it is divided therefrom by means of a partition 6, the dividing structure or partition being of such a character that it will secure to the officer such degree of isolation as may be desired without obstructing or interfering with his communication with the passengers as they pass through the officer's section, as herein-after stated. A passage 4 extends from the passengers' section 5 to the exterior of the car at one side of the officer's station and is located adjacent to the officer's station 3, whereby the passengers entering the car through the passage 4 are obliged to pass close to the officer's station.

In the construction shown, the partition 6 has glass doors 7 and 8 closing passages to passenger section 5 and passage 4, and the aperture, or fare window 9, with shelf 10 communicating with passage 4, over which fares may be paid or change be made. Any suitable fare receptacle, as indicated at 11, may be located in or near the aperture 9, and the aperture may be provided with a door or screen to enable closing when desired.

The passage 4 leads from a step 12 of any ordinary construction at the side of the officer's section and is enlarged into the platform space 13 and curved to pass the officer's station 3, where fare may be paid through the aperture 9, or deposited in the receptacle 11 before the passenger passes through the door or other closure 14, which opens inwardly into passenger section 5. Though the employment of the door 14, or, if preferred, a turnstile in lieu thereof, is clearly not of the essence of my invention, yet in practice its use will be found desirable, and I prefer to lock the same normally against movement except under release by the officer through actuation of any suitable release mechanism. This release mechanism may be as best shown in Figs. 1 and 3, although it will be appreciated that any suitable release means, whether mechanical, electrical, pneumatic or otherwise, may be substituted for that shown.

A bell crank lever 15 is pivoted at its elbow in the officer's section, and preferably at the station 3, and one arm of this lever forms a handle 16 and the other arm 17 pivots at its end to a rod 18, whose other end pivots to the end of arm 19 extending from the door 14. When the door 14 is in closed position, the various pivot centers are in a common line, and therefore the door cannot be opened. As soon as the motorman or other officer rotates the handle 16, this

straight-line pivot arrangement is broken and the door can then be fully opened by the motorman upon further rotation of the handle 16, or the door can be opened by persons passing into the car after initial unlocking thereof by the motorman. After the entrance of a passenger into the passenger section 5, the door 14 is automatically restored, in some suitable manner, to its closed position and again locked against movement except upon actuation of the release mechanism.

A register 20 is connected with the door 14, and actuated by the opening of the latter to record the number of passengers entering the car, thereby providing a check upon fare receipts. As shown in Fig. 2, the register 20 is mounted on the framework above the door 14, the actuating arm 21 extending downwardly from the register and in the path of the arm 22, extending upwardly from the door 14 and pivoted thereto at 23, a spring 24 tending to hold the arm in vertical position against the door. When the door is opened, the arm 22 engages the lower end of arm 21 to raise said arm to cause actuation of the register, and the pivot arrangement of the arm 22 enables this arm to travel past the end of arm 21 when the door is again closed.

A second passage 26 extends from the passengers' section of the car to the step 12 at the side of the officer's section and constitutes the egress passage. This egress passage is preferably arranged between the ingress passage and that side of the car opposite the officer's station and may be separated from the ingress passage by any suitable dividing structure or partition, such as a railing 25, so arranged as to interpose no material obstacle to the operator's vision. A suitable closure is provided to control the movement of passengers through this passage, and, in the illustrated embodiment, this is accomplished by a door 27 arranged at the inner end of the passage and held against movement toward the interior of the car.

A post 28 supporting at one end the railing 25, carries the doors 14 and 27. Should it be desired, the door 27 also may obviously be locked, by any suitable means, against movement except upon actuation by an officer of any suitable release mechanism. This release mechanism may be similar to that shown for controlling the door 14 and would comprise the operating lever 29, the connecting rod 30 and the arm 31 extending from door 27.

Separation of ingress and egress passages in suitable manner, as in the construction shown, will be found not only convenient but important in practice, and I prefer also that passage 4 be used for ingress, and passage 26 for egress, but obviously, with 130

slight modification of construction, their functions may, if desired, be reversed. The passengers pay fare when leaving the car through passage 4 and might be intercepted in departure, if desired, by a door or turnstile, located in front of aperture 9, instead of as now shown in drawings, so that the door 14 may be suitably interposed between the aperture and point of exit from car. Each passage may, of course, be suitably designated at its point of entrance for the guidance of those boarding or leaving the car.

To afford an additional or emergency exit, there may be provided preferably in the normally closed rear portion of passenger section 5, a door 32, which may be normally locked, but provided with any suitable release mechanism for actuation by an officer. This release mechanism may be similar to that shown for the doors 14 and 27, comprising an operating lever 33, the rod 34 and the arm 35, extending from door 32. Additional release mechanism actuated by manually thrown lever 36, within glass faced case 37, may be provided to meet the contingency of inability of the officer to actuate the release mechanism 35.

It will be found convenient to provide, in cars embodying my invention, a rear platform or portion 38 separated by swinging or sliding doors 39 from the main portion of passenger section 5, and suitably equipped with seating accommodations to afford a comfortable and suitably isolated compartment for smokers.

From the foregoing description, it will be readily appreciated that a person taking passage upon a car embodying my invention will enter the passage 4 by step 12, under the observation of the motorman or officer, who will be enabled thereby to determine the proper moment for starting the car without jeopardy to the safety of the intending passenger. The latter, after boarding the car, proceeds through passage 4 to fare window 9; and after there paying fare, he continues through the inwardly opening door 14 to the passenger section of the car. It will be obvious that in the absence of a door or turnstile, only at rare intervals would any attempt be made on the part of a passenger to ride free, or to annoy the motorman by failing to pay fare at the window 9, as defection would be immediate, and the motorman by stopping the car could quickly reach the passenger by entering through door 7 into passenger section 5. But by providing a gate or turnstile, as shown in my preferred embodiment, the possibility of trouble with a passenger who may reach passenger section 5 without depositing fare will be averted, if movement of door 14 be placed under control of the operator, who can thus refuse to release locking mechanism

until the passenger has paid his fare. In taking departure, the passenger will signal the motorman in any usual manner, such as by an electric bell or visual or other signal system, which may be installed, or by verbal request, thereupon passing through door 27 into egress passage 26, and after the car has reached a stop, by step 12 to the street.

It is evident that there will be no danger that the operator will start the car in ignorance of the attempt of any passenger to alight, as the process of leaving the car occurs under the operator's observation, and if outwardly swinging door 27 also be under the control of the operator, it will be impossible for the passenger to pass there-through into egress passage 26, until the operator has released the mechanism by which such door is locked, which he may do simultaneously with or immediately before the stopping of car. It is evident, therefore, that the type of accident which is perhaps most frequent in connection with passenger cars will be almost, if not entirely, eliminated by the employment of my invention; while by the use of that feature of my invention which relates to payment of fares to the motorman, not only will it be feasible to dispense wholly with the expense of a conductor, collector or other agent for the purpose of collecting fare, but the danger of missing fares will be wholly averted.

It will be apparent that a car embodying my invention need not be limited in construction to that type commonly referred to as a single-end car, but that each end may be constructed similarly to the construction of the forward end of the car shown in the accompanying drawings, in which event suitable doors may be provided at the sides of the car at points of entrance and exit, or other provision made to enable the closing at all times, while the car is in use, of the end which for the time being or on any particular run may constitute the rear, without in any wise departing from the spirit of my invention.

It will be obvious also that my invention does not necessarily preclude the retention of an additional employee or conductor or other agent upon the car for the purpose of collecting fares, but that if desired that method of fare collection may be used whenever desired, without detracting from or departing from my invention, or in any respect necessitating modification or alteration of the construction of a car embodying the same.

It will be noted that the construction of the car is such as to constitute what may be termed a "near side" car, that is, a car having the entrance and exit both at the forward end of the car on that side near the point from which the passenger will enter the car or at which he will alight, thus

placing the passengers entering and leaving the car directly under the observation of the motorman or other operator.

Many modifications of the minor details of my invention will readily suggest themselves to those skilled in the art to which it appertains, and I do not desire to be limited by the specific forms of construction herein shown and described.

It will be noted that my invention contemplates a platform having three divisions, two of which constitute ingress and egress passageways, respectively, both leading from one side of the platform to the passenger's section and separated by a divisional structure and the third division constituting an officer's station which, in the present instance, is the motorman's station.

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

1. A passenger car normally closed at its rear end and comprising a passengers' section an operator's station, a passage adjacent to and separated from said operator's station and normally closed against movement in one direction, and a passage adjacent to the first-mentioned passage and normally closed against movement in the opposite direction.

2. A passenger car comprising a passengers' section, a motive power operator's station at the forward end of said car, a passage adjacent to and separated from said motive power operator's station, means for normally closing said passage against movement in one direction, operating mechanism for said means operable from said motive power operator's station, and a passage adjacent to the first-mentioned passage and normally closed against movement in the opposite direction.

3. In a passenger car having a normally closed rear end, a platform at the forward end, an operator's station located on said platform, an entrance passage adjacent to said operator's station and between said operator's station and the egress passage and normally closed against movement in one direction, and an egress passage adjacent to the entrance passage and normally closed against movement in one direction.

4. A passenger car comprising a passenger section normally closed at one end and provided with a smoking compartment, a motive power operator's station, contiguous passages for opposite movement from passenger section to car exterior, both of said passages being separated from but one thereof being contiguous to said operator's station.

5. A passenger car provided at one end only with motive power controlling apparatus and entrance and exit, the other end having a normally closed exit under control

of the operator of said power controlling apparatus.

6. A passenger car normally closed at its rear end and having only at its other end a motive power operator's station with ingress passage adjacent thereto but separated therefrom and formed to require passengers on entering car to approach and then pass said motive power operator's station, and a separate egress passage adjacent to said ingress passage.

7. A passenger car having a passenger section and a platform at one end, said platform being divided to provide a motive power operator's station and an egress passageway and an ingress passageway between said egress passageway and said operator's station, a door controlling passage to egress passageway from said passenger section, and a door controlling entrance to said passenger section from said ingress passageway, both doors being under control of the operator in said operator's station.

8. A passenger car having at one end a motive power operator's station, an ingress passage and an egress passage, and having at its other end only an emergency outlet, said ingress and egress passages and said outlet being all controlled by one operator in the operator's station.

9. A passenger car having a passenger's section, and an officer's section at one end, a divisional structure on said officer's section forming an officer's station, ingress and egress passageways extending from the same side of said officer's section to said passenger's section, a dividing structure separating said passageways for substantially their full length, doors to close said passageways, and means remote from said doors and operable from said officer's station to close said doors.

10. A near side passenger car having its rear end normally closed and comprising a passengers' section, and an officer's section at the front end thereof, said officer's section comprising three divisions, one constituting an officer's station and the other two constituting passageways, one for the ingress and the other for the egress of passengers, both wholly at the front end of the near side of the car and both leading from one side of said officer's section to the passengers' section, and divisional structures separating the three divisions.

11. A passenger car having a passengers' section, an officer's section at the front end thereof, ingress and egress passages extending from one side of said officer's section to said passengers' section, a divisional structure to separate said passages, doors to close said passages, means operable from said officer's section to control said doors, a passage extending from said passengers' section to the exterior of the car in the rear of said officer's section, a closure for said passage,

and means operable from said officer's section to control said closure.

12. A passenger car having a passengers' section, an officer's section at one end thereof, an officer's station, an ingress passage extending from one side of said officer's section to said passengers' section and arranged adjacent to said officer's station, an egress passage extending from said passengers' section to said side of said officer's section and arranged between said ingress passage and the side of said car, doors to close said passages, and means operable from said officer's station to manipulate said doors.

13. The combination in a passenger car, of

a body portion, a platform at the forward end of the body portion, a door-way at the rear of the car, a door arranged to close said doorway, and means for operating the door at the platform at the front of the car and also at a point at the rear of the car near the said doorway.

In witness whereof, I hereunto subscribe my name this 9th day of December, A. D. 1908.

LOUIS E. FISCHER.

Witnesses:

WALTER L. MURPHY,

CARL W. BRAND.