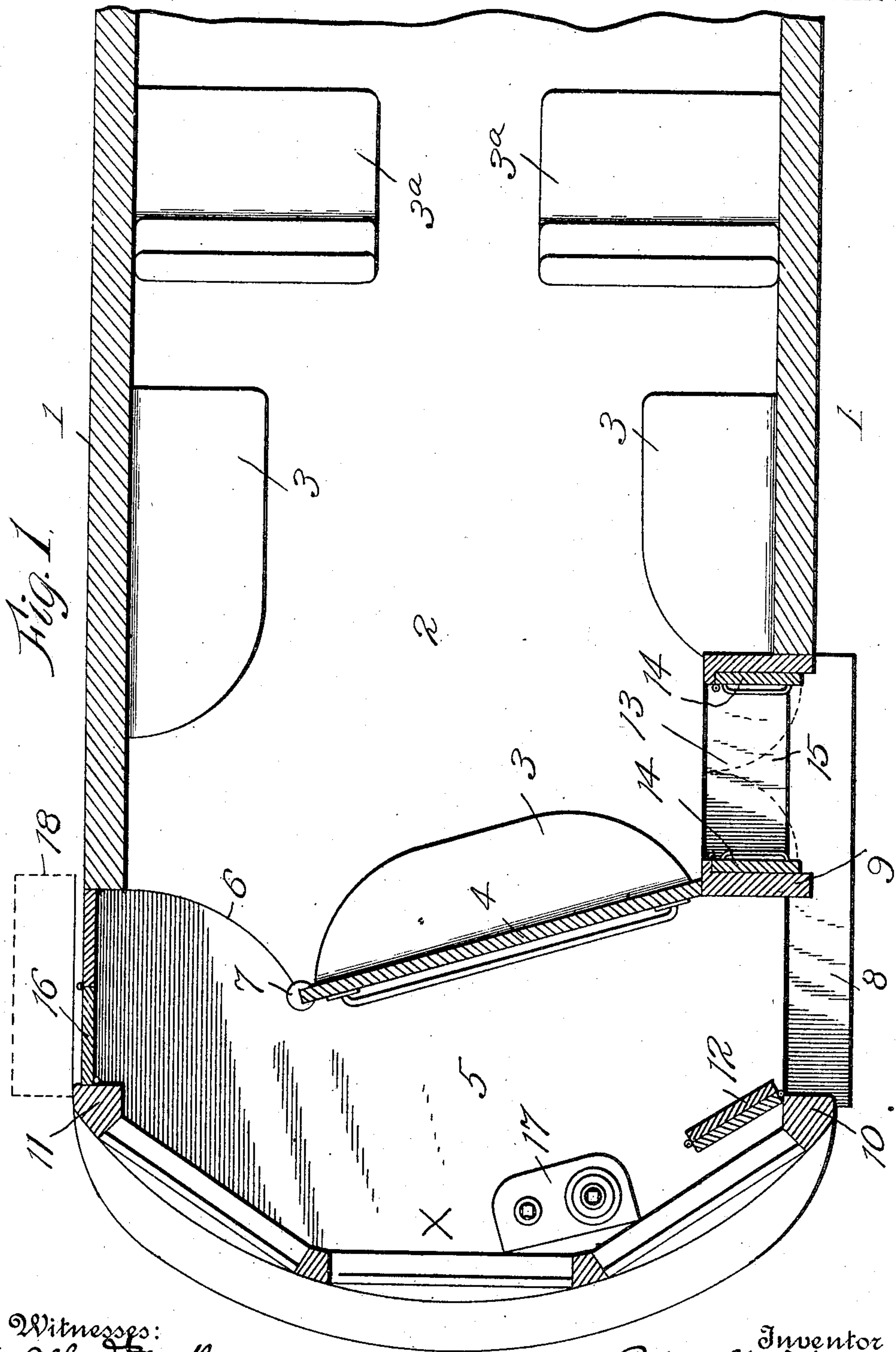


934,818.

P. M. KLING.  
CASH ENTRY CAR.  
APPLICATION FILED JUNE 2, 1909.

Patented Sept. 21, 1909

4 SHEETS—SHEET 1



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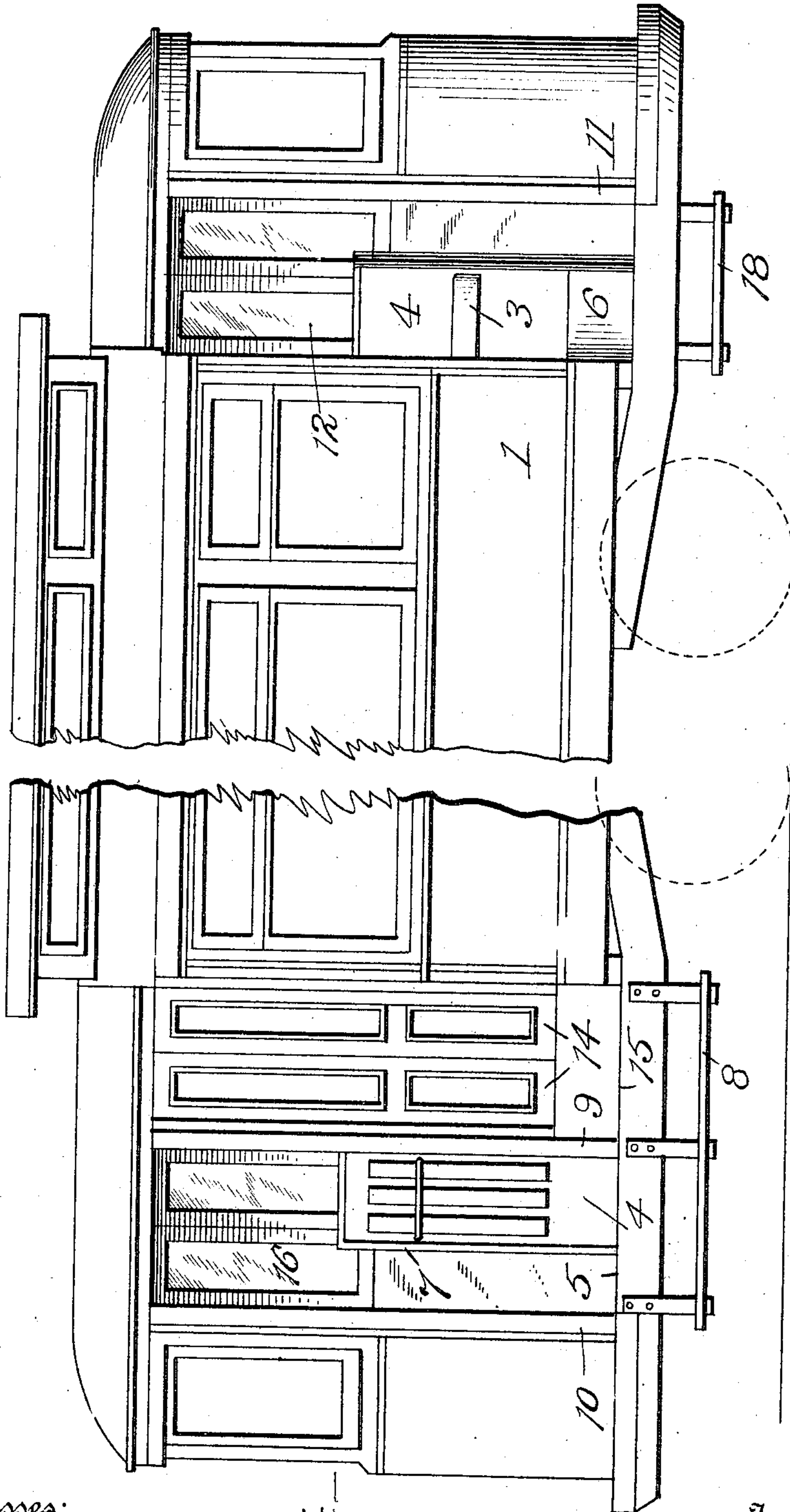
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4 SHEETS—SHEET 2.

*Fig. 2.*



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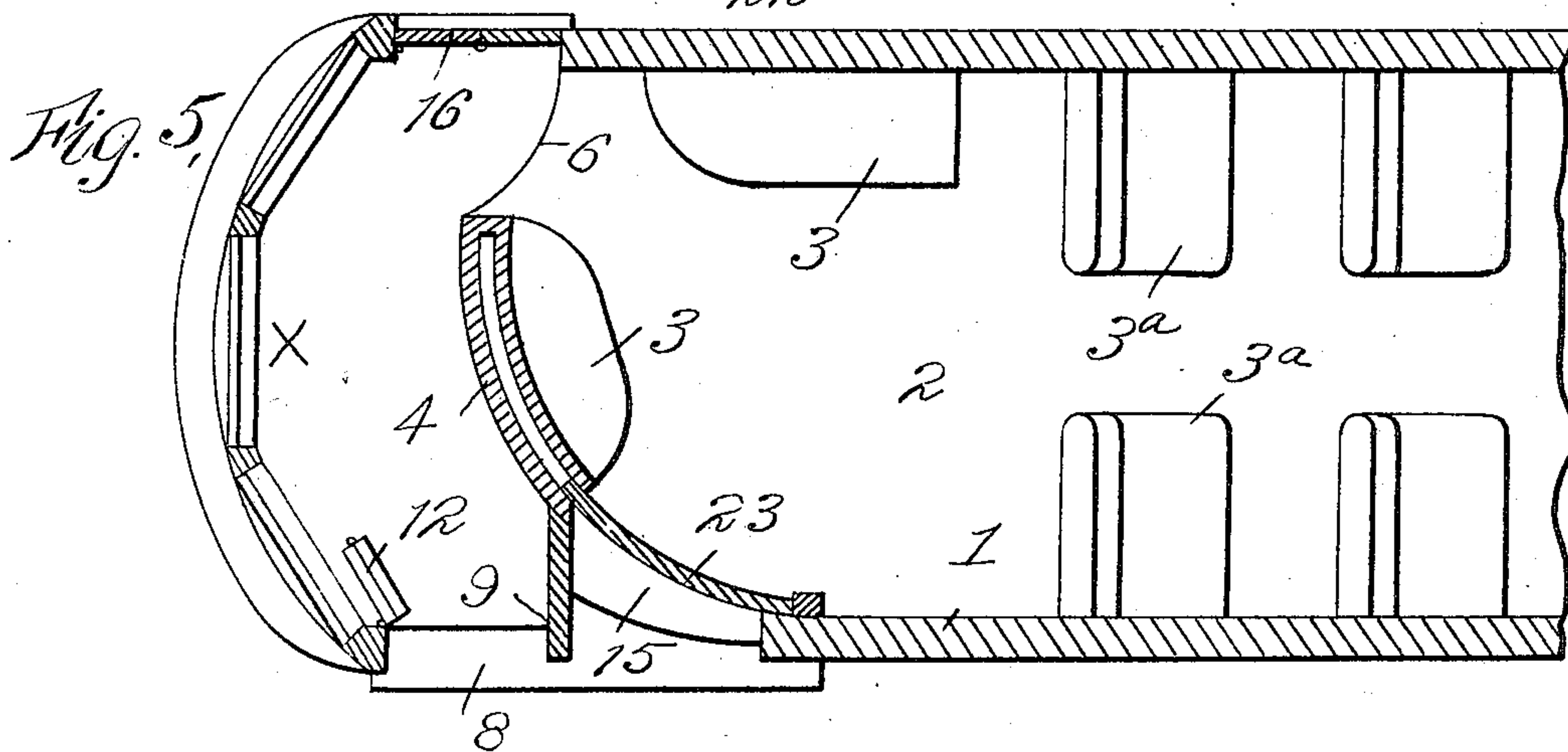
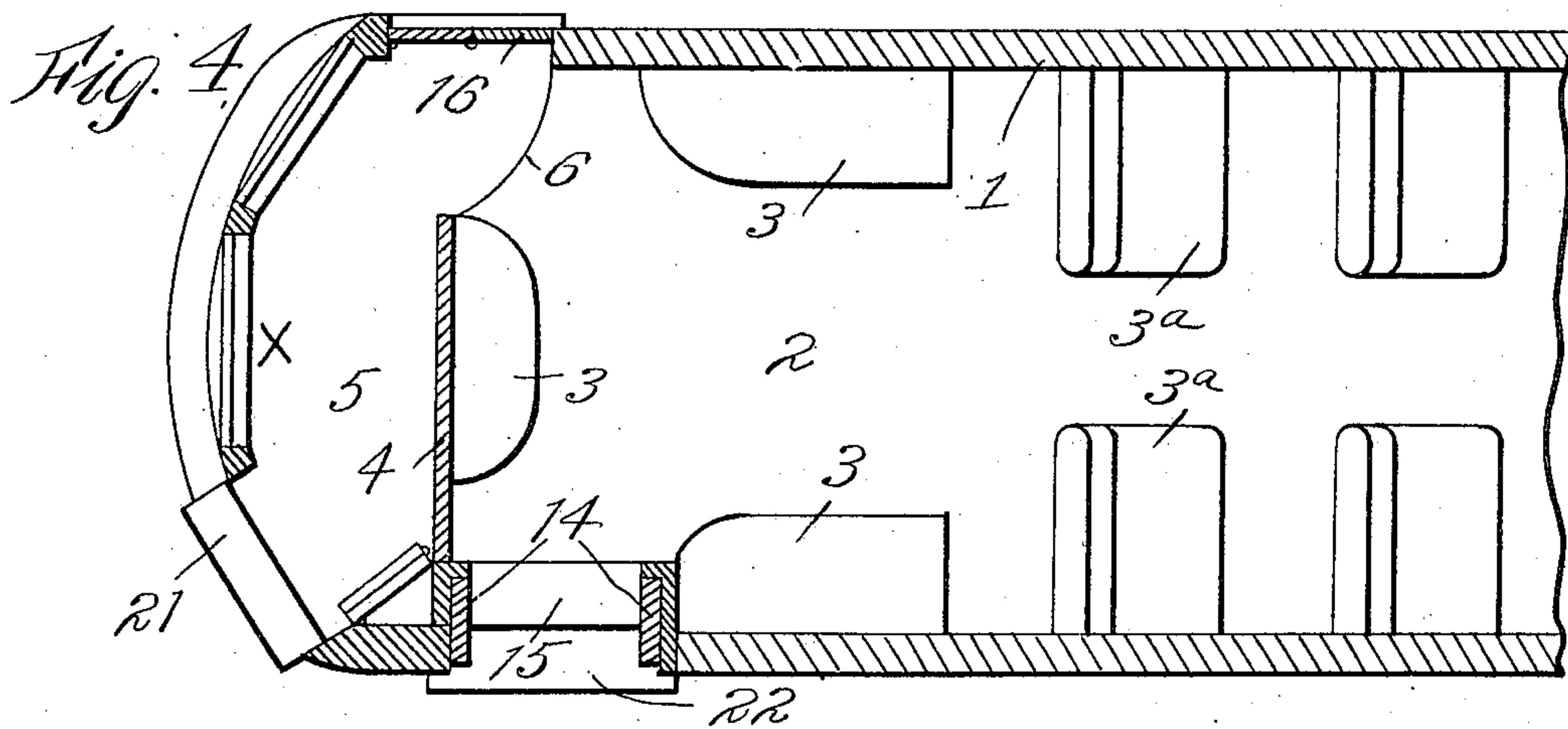
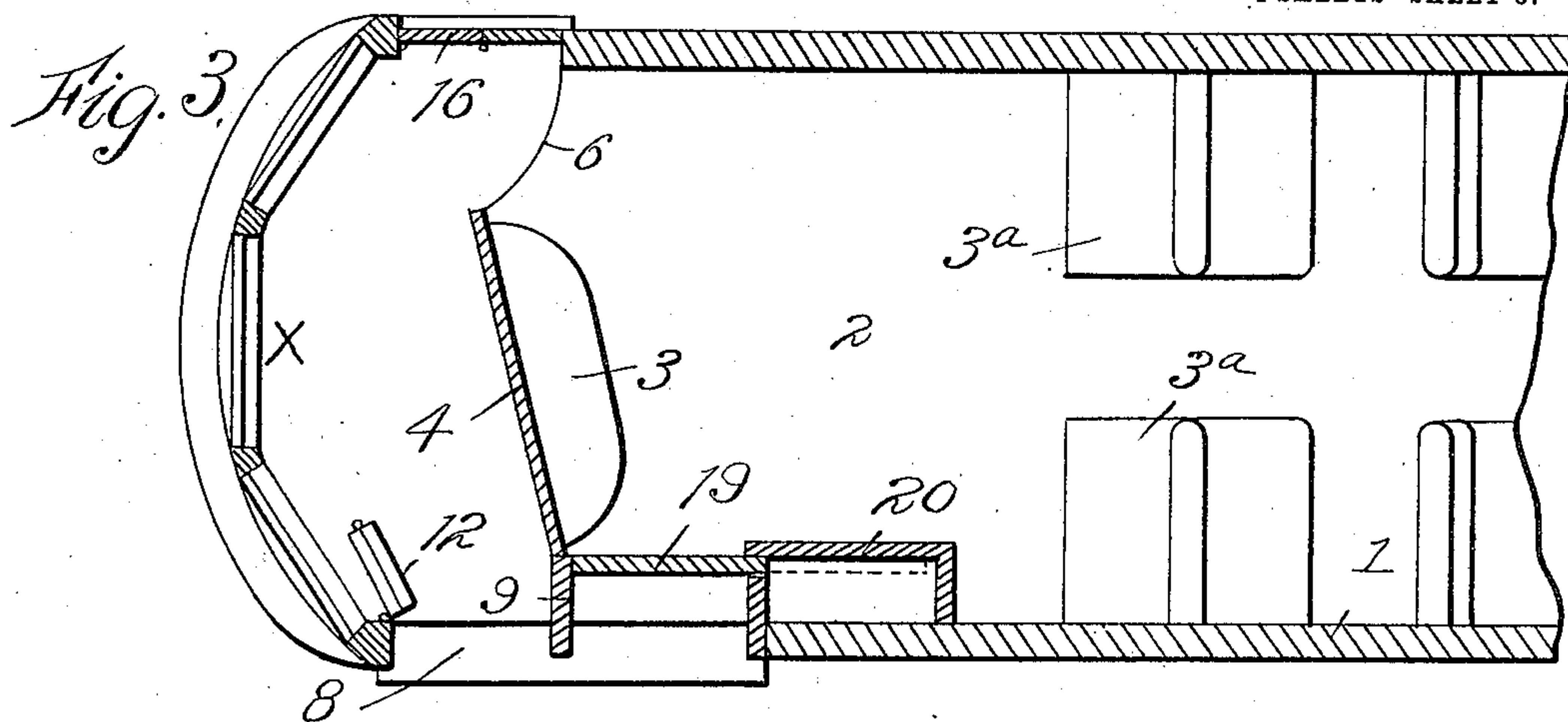
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4 SHEETS—SHEET 3.



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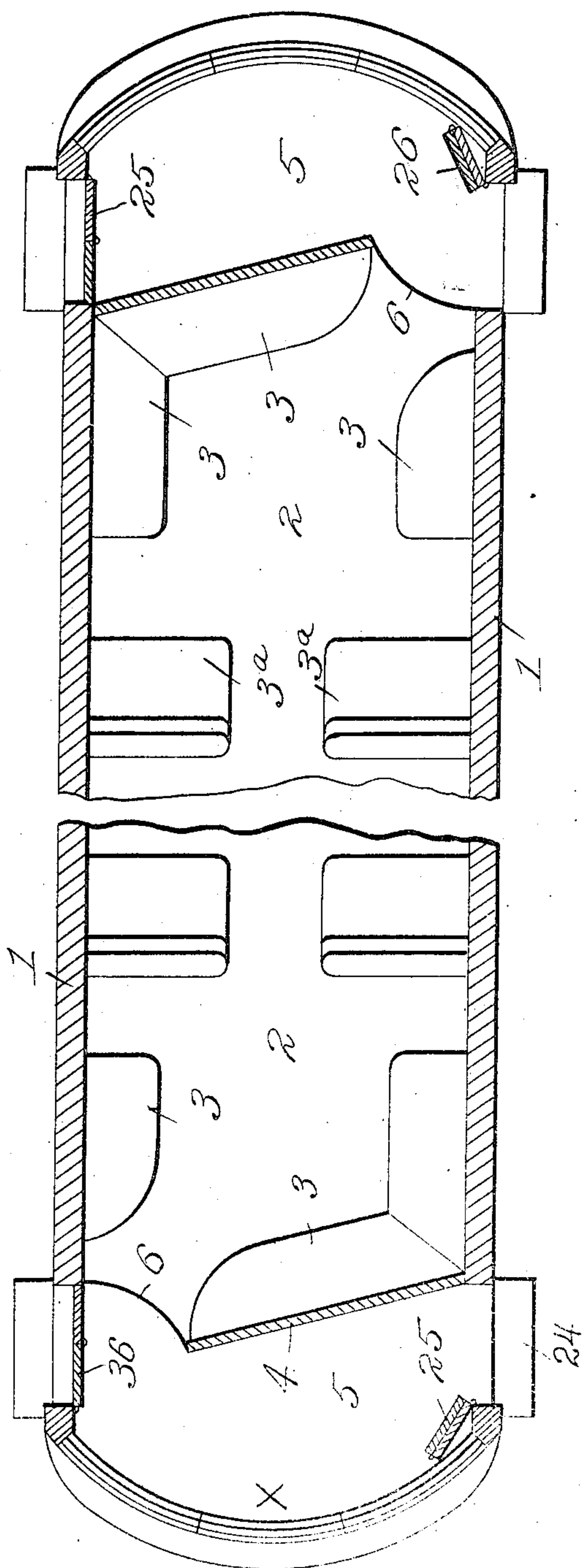
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4 SHEETS—SHEET 4

Fig. 6.



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# UNITED STATES PATENT OFFICE.

PETER M. KLING, OF ELIZABETH, NEW JERSEY.

## CASH-ENTRY CAR.

934,818.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed June 2, 1909. Serial No. 499,736.

*To all whom it may concern:*

Be it known that I, PETER M. KLING, a citizen of the United States, and a resident of Elizabeth, county of Union, State of New Jersey, have invented certain new and useful Improvements in Cash-Entry Cars, of which the following is a full and clear specification, illustrated by the accompanying drawings, the particular novel features of the invention being more fully pointed out in the annexed claims.

My invention relates in general to that type of passenger street cars or the like, in which the passengers pay their fare before they take their seats, and in which the entering passengers, for this purpose, have to pass the conductor at some suitable place.

The particular novel features of my car reside in an improved arrangement of the manner in which the passengers enter and leave the car, and for this purpose I have provided the platform of the car so that the fares are collected as the passengers enter the car, or rather before they enter the inside of the car contrary to the so-called pay-as-you-enter cars heretofore used, in which the passengers enter over the platform and pay their fares to the conductor who is positioned inside the car body.

The particular advantages of my improved structure are that there is much less or practically no waste of room on the car platform and I can reduce the platforms approximately 50% in size over those heretofore used in a similar type of cars and still accomplish the same as cars of platforms of double the size. The advantages thus obtained are obvious. First, with a shorter platform the car body can be built lighter, the framing and trussing of the car can be lighter and thus the car will cost less to build than the present cars with the long platforms. Moreover, the car according to my improvement, will have a longer life since it is under less strain. The car being lighter in weight, also the operating expenses will be greatly reduced, for obviously the heavier the car is, the more it costs to move it. Still with all the advantages above pointed out, I can accommodate the same, if not a larger number of passengers with a car body of the same size as used in the present so-called pay-as-you-enter cars. A further advantage of my structure over the cars

of this type heretofore used is that I eliminate some of the many doors used heretofore in these cars.

I have accomplished my proposed improvement by practically eliminating the platforms as such by providing a comfortable aisle across the end of the car instead, through which passengers enter the platform on one side of the car and enter into the body from said aisle on the opposite side through an opening formed by the wall of the vestibule and a partition between the aisle and the car body. The conductor takes his position in this aisle on the platform at a place which has been marked with a cross in the various modifications shown in the drawings and from this place he can over-look the entire car. He can see the passengers in the car, watch them getting off, and he can collect the fares as soon as the passengers have entered the aisle or see that the fares are deposited. By putting the aisle across the car, considerable storage room is provided which will hold about ten passengers and there will be no delay at stopping places. The car can proceed as soon as the passengers are aboard and fares can be collected while the car is in motion. The floor of the aisle is depressed so as to form one step from the aisle into the inside of the car.

In the accompanying drawings, I have illustrated how my improvement may be reduced to practice.

In these drawings: Figure 1 is a horizontal section on the line X—X in Fig. 2. Fig. 2 is a side elevation of my improved car showing only the two ends. Figs. 3, 4, 5 and 6 are plan views of the sections through my improved car on the same line as shown in Fig. 2, showing modifications of the novel features of my invention.

As will be seen from Fig. 1, 1 represents the car body proper which extends on either end as far as the inner floor 2 extends, on which the seats 3 are disposed. From one side of the car extends a partition 4, which as shown in Fig. 1, runs from the point where indicated substantially slantingly across the aisle platform 5 of the car toward the corner of the car at the opposite side, leaving sufficient space between its end and said corner, to allow a passenger to conveniently enter through this space. This end 7 of the partition is also disposed so rela-



tively to this opposite side of the car body that it will allow sufficient width for the step 6, which leads from the aisle platform 5 to the car body floor 2. The passengers enter the aisle platform 5 from the step 8 which forms the first step from the ground. This step extends from the corner of the car at the left hand end toward the right so that the vertical, short, transverse wall 9, which forms the left hand end of the car body proper and from which the partition 4 extends, is located in the middle of this step 8. The entrance for the passengers is between this wall 9 and the corner 10 of the car, and its door 12, which may be of any suitable construction, may be opened and closed by the conductor by any of the well known mechanical devices from the conductor's position marked with a cross. The passengers then file past the conductor, pay their fares, and then turn to their right and enter the car body proper by going up the step 6. The partition 4 need not extend all the way up to the ceiling of the car but may extend only half way up. This will facilitate the control of the inside of the car by the conductor without providing windows in partition 4, as would be the case if it extended up to the ceiling. The car as hereinbefore described, is meant to run in the direction from the left to the right in Fig. 1, so that the illustration shown in Fig. 1 and as far as described, is meant to represent the rear end of the car. In order to facilitate the leaving of the car, I have provided a door opening 13 which is located adjacent to wall 9 in the side of the car body which is in fact located at the end of the inner car space as may be seen in Fig. 1. This opening may be closed by means of any suitable door shown in the several modifications for instance as shown in Fig. 1 by the double swinging door 14 which may be also operated by the conductor from his place, by any of the well known mechanical means or by out-going passengers only. Between the level of the inner car floor 2 and step 8 which extends across this door, is interposed step 15 which is on the same level with aisle platform 5. It will be seen that by this arrangement I obtain considerable space within the car body proper within seats 3<sup>a</sup>—3<sup>a</sup> and 3—3 in Fig. 1 in which a great number of passengers can stand ready to alight without interfering with the passengers entering the car from the opposite side over step 6.

Considering the illustration shown in Fig. 1, now as the forward end of the car, a door 16 is provided which may be operated by the motorman standing at the controller 17, in any suitable manner. This door is permanently closed so long as the end of the car shown in Fig. 1 forms the rear end of the car, but this door may be opened at the stops by the motorman, when the part of

the car illustrated forms the forward portion of the car, to allow passengers to alight, so that thus the car will be emptied at both ends at the same time and on the same side. A folding step 18, which may turn down as soon as door 16 is opened, leads from aisle platform 5 to the ground. I have omitted to show the manner in which this step may be folded since devices of this kind are well known in the art, and since their construction is immaterial in this particular instance. Considering the illustration in Fig. 1 as the forward end of the car, doors 14 and 12 are permanently closed so that no passengers can enter or leave the car on this side. When door 16 is opened by the motorman, it will be seen that it swings, owing to its being hinged at the end of the car so that it closes the main portion of aisle 5 in which the motorman stands off from the passengers and is out of the way of the passengers, thus forming a clear passageway directly from the interior of the car to the outside.

The arrangement just described will be still clearer when considering Fig. 2 which forms a side elevation of the two ends of the car. In this figure the car is meant to run in the direction from the left to the right, double door 14 at the rear end is shown closed, and door 16 of the front end is shown open and the step 6 leading to the inner car platform and the seat 3 at the forward partition 4 can be seen through this latter door. Through this open door also the door 12 can be seen which is permanently closed at this end of the car, and shown open at the other end.

In Fig. 3 I have illustrated a modification of the arrangement shown in Fig. 1 so far as the door is concerned, through which the passengers leave the car when the car end shown in this figure forms the rear end. Instead of providing a double swinging door 14 as shown in Fig. 1, I provide a sliding door 19 which may be also operated from the conductor's place marked with a cross, by any suitable mechanical means known in the art. A casing 20 is provided inside of the car into which this door may slide. Otherwise the arrangement may be the same as shown in Fig. 1.

In Fig. 4 I have shown an arrangement which may be used to best advantage in so-called single end cars, that is to say in cars which travel only in one direction. The end shown in Fig. 4 is meant to represent the rear end of the car. As will be seen from this figure, the step 21 from which the passengers enter the aisle platform 5, is provided on the rounded end of the car so that the car body proper extends substantially to the point at which the rounding of the car commences. The partition 4 extends in this case, at right angles transversely across the



car and is disposed farther toward the end of the car than shown in Figs. 1 and 3. In a similar manner as shown in Fig. 1, a double door 14 through which the passengers leave the car over steps 15 and 22 is provided inside of the car body proper.

Fig. 5, shows substantially the same arrangement as shown in Figs. 1 and 3 with the exception of the partition. In this particular case the partition 4 is shown curved and the exit door 23 from the rear end of the car is shown as a sliding door which slides into the rounded portion of partition 4.

In Fig. 6 I have shown a modification which may be used to a particular advantage in case it is desired to change ordinary old style street cars into cash entry cars, according to my invention. In this case it is understood that the passengers enter at the rear end of the car and leave at the front end only, but on the same side. Considering the illustration in Fig. 6 the car is meant to run in the direction from the bottom to the top of the sheet. The conductor stands at the place marked with a cross and the passengers enter aisle 5 over step 24 and through door 25. The partition 4 may be slanting in the same manner as shown in Figs. 1 and 3. After passing the conductor, they enter the car body proper over step 6. The door 26 at the opposite side of the car is then permanently closed. The passengers leave the car at the front end only, stepping down step 6 onto aisle platform 5 and leaving through door 26, which can be opened either by the passengers or by the motor-man, and which at the front end of the car is located on the same side on which entrance door 25 at the rear end of the car is located. Door 25 at the front end of the car is then permanently closed. Thus it will be seen that in case of turning an older car into a cash entry car, according to my invention, it is practically only necessary to provide partition 4 and to inclose the former outer platform of the car. It is of course understood that this construction may be also employed in the new construction of cars. It is also understood that in case it be desired to use the car for a single end car only, that door 25 at the front end and door 36 at the rear end may be permanently closed or even omitted.

While I have shown in the drawings the doors and steps and other accessories of the car in a rather diagrammatic manner it is understood that they may be operated in any suitable manner well known in the art. For instance, all steps may be stationary, portable, hinged or protected, all such structures being well known so that their description and illustration may be omitted in the present case.

What I claim is:—

1. In a passenger car, the combination

with the body portion forming a complete inclosure, a partition near the end of the car extending from one side partway across to the other side of the body, separating an aisle from the main body of the car of sufficient width to accommodate the conductor and passengers on their way into the main body of the car past the conductor.

2. In a passenger car, the combination with the body portion forming a complete inclosure, a partition near the end of the car extending at an angle from one side partway across to the other side, separating an aisle from the main body of the car of sufficient width to accommodate the conductor and passengers on their way into the main body of the car past the conductor.

3. In a passenger car, the combination with the body portion forming a complete inclosure, a partition extending near the end of the car from one side partway toward the other side, forming an aisle for the passage of the passengers entering the car and adapted to accommodate the conductor, the floor of the car inside of said partition being higher than the floor of said aisle, an entrance door leading to said aisle between said partition and the car end, and an exit door adjacent thereto, forming a direct exit from the inside of the car.

4. In a passenger car, the combination with the body portion forming a complete inclosure, a partition near the end of the car extending at an angle from one side partway across to the other side forming an aisle for the passage of the passengers entering the car and adapted to accommodate the conductor, the floor of the car inside of said partition being higher than the floor of said aisle, an entrance door leading to said aisle between said partition and the car end, and an exit door adjacent thereto, forming a direct exit from the inside of the car.

5. In a passenger car, the combination with the body portion forming a complete inclosure, a partition near the end of the car extending from one side partway across to the other side of the body, separating an aisle from the main body of the car of sufficient width to accommodate the conductor and passengers on their way into the main body of the car past the conductor, an entrance door leading from the outside to said aisle and a door on the correspondingly opposite side of the body to be closed when said end of the car forms the rear end and adapted to be opened to form a direct exit for the passengers from the inside when said end of the car forms the forward end.

6. In a passenger car, the combination with the body portion forming a complete inclosure, a partition extending near the end of the car from one side partway toward the other side, forming an aisle for the passage of the passengers entering the car



and adapted to accommodate the conductor, the floor of the car inside of said partition being higher than the floor of said aisle, an entrance door leading to said aisle between said  
5 partition and the car end, and an exit door adjacent thereto, forming a direct rear exit from the inside of the car at the rear end,

and a door at the front end of the car on the same side, forming a direct front exit for the passengers from the inside.

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