

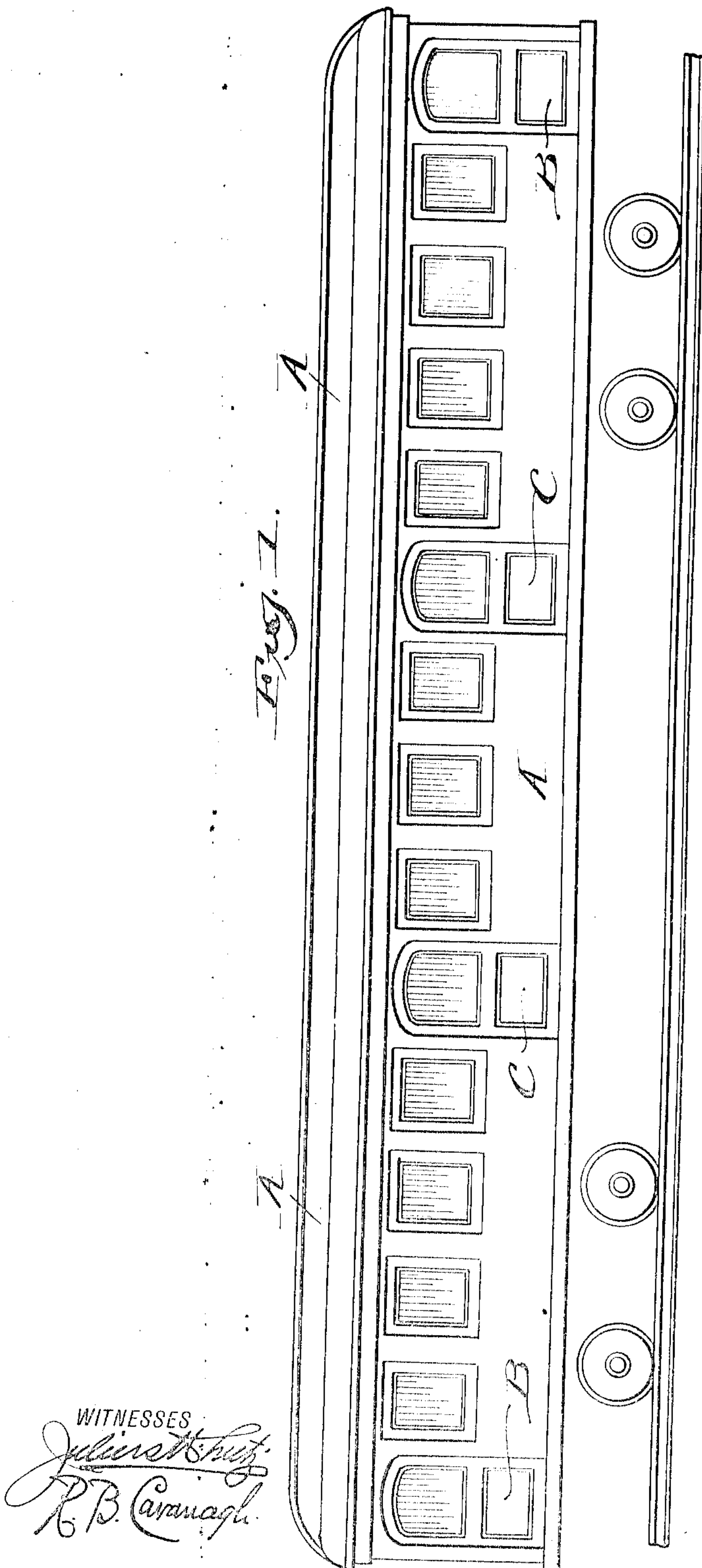
H. S. PUTNAM.
CAR.

APPLICATION FILED FEB. 25, 1908.

947,520.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.



H. S. PUTNAM.

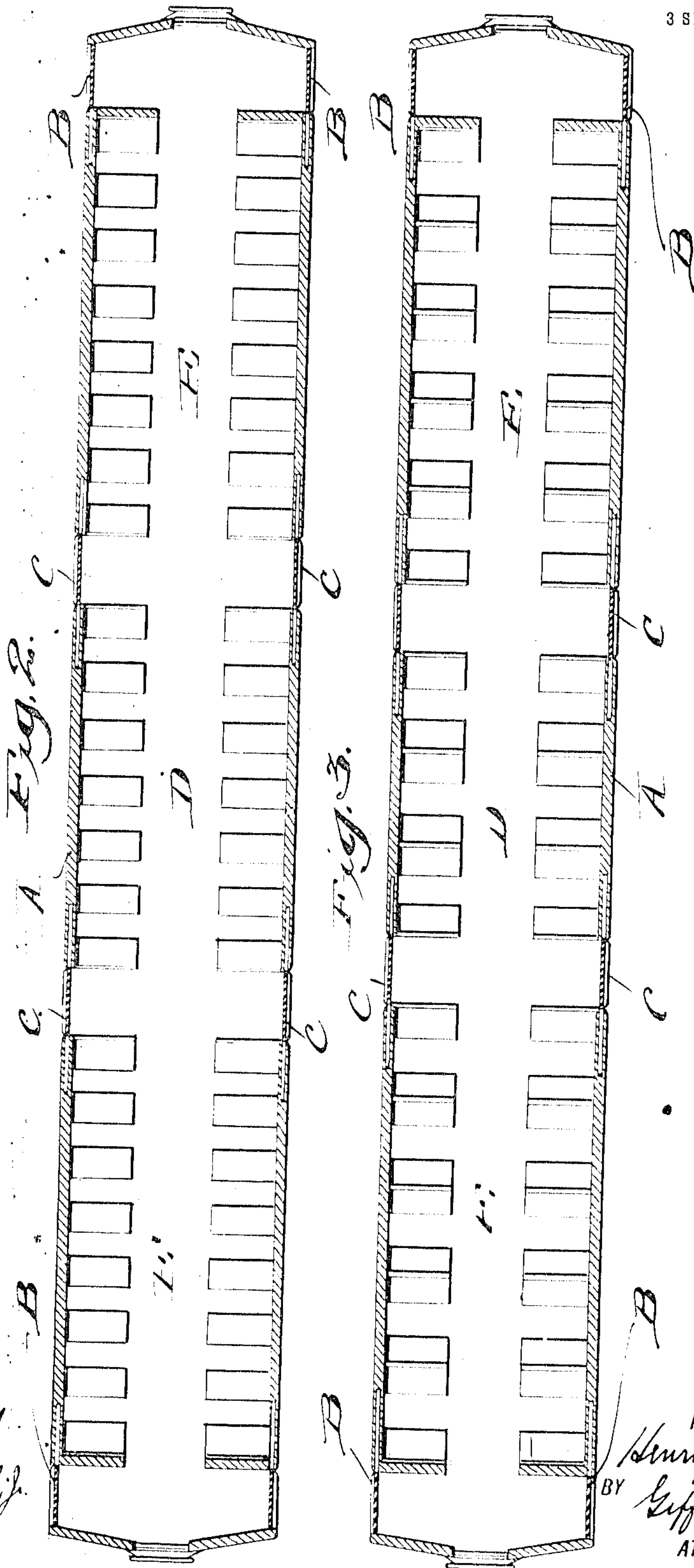
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3 SHEETS—SHEET 2.



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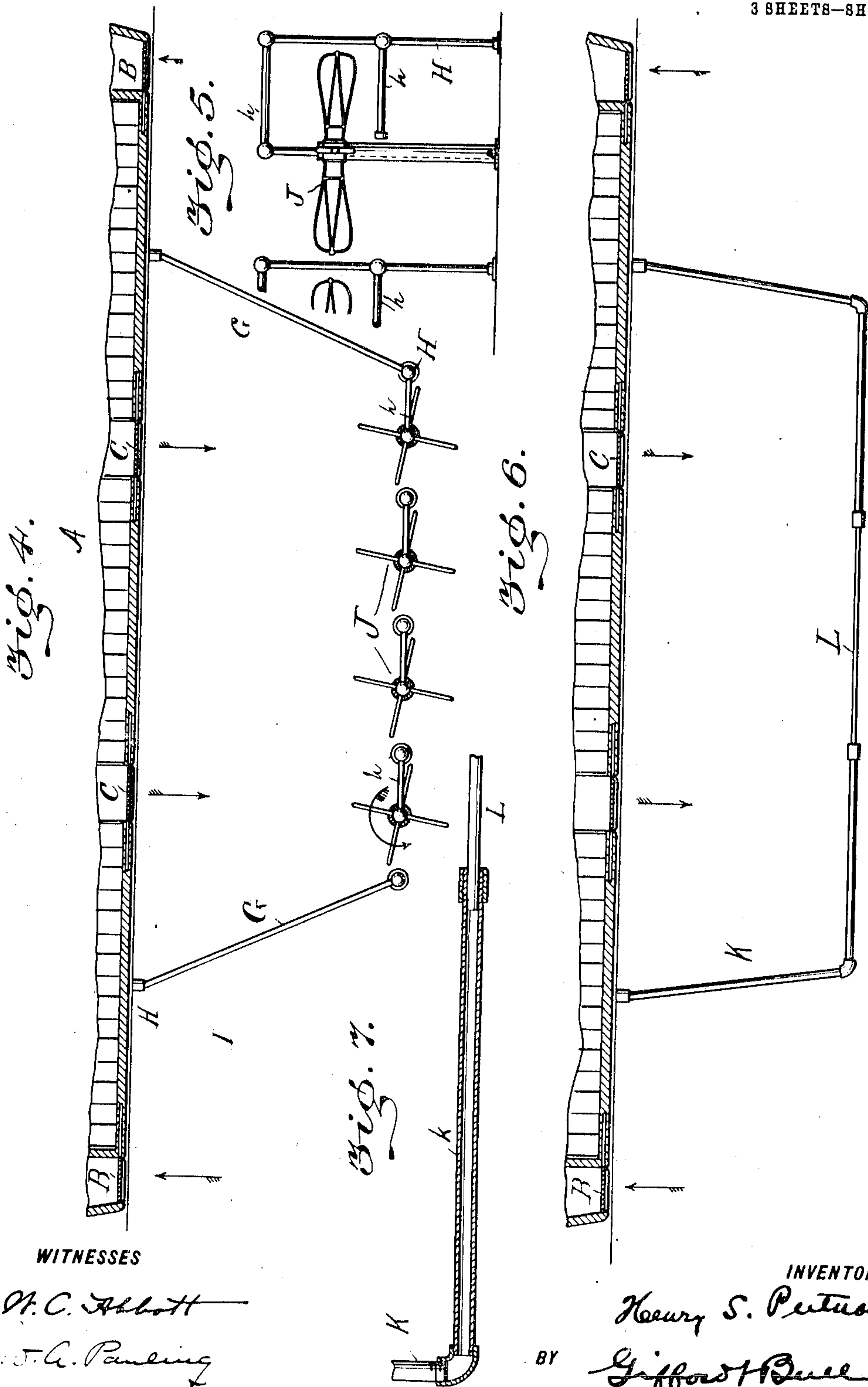
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3 SHEETS—SHEET 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY S. PUTNAM, OF NEW YORK, N. Y.

CAR.

947,520.

Specification of Letters Patent.

Patented Jan. 25, 1910.

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To all whom it may concern:

Be it known that I, HENRY S. PUTNAM, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county of New York and State of New York, have invented a certain new and useful Improvement in Cars, of which the following is a specification.

The present invention relates to certain novel and useful improvements in railway cars, and especially in cars designed for heavy passenger traffic.

In city and suburban railroads, and especially where the traffic is heavy, for instance where the traffic reaches the proportions as exist on the elevated and subway lines in New York city, and in those cases there is more or less of an interchange of passengers at the station platforms, there are several contributory causes which result in discomfort to the passengers, delay in the running schedule of the trains and which limit the carrying capacity of the road.

One of the objects of my invention is to remedy those features which cause discomfort and inconvenience to the passengers and at the same time to increase the maximum passenger capacity of the road, as hereinafter described.

My invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

In the accompanying drawings, Figure 1 is a view in side elevation of a car embodying my improvement; Fig. 2 is a horizontal longitudinal sectional view taken through a car of the type shown in Fig. 1; Fig. 3 is a similar view in which the seating arrangement is slightly modified; Fig. 4 is a plan view of an arrangement for railing off a section of the station platform to keep the side exit doors free for the discharge of passengers; Fig. 5 an elevation of the turn-stiles of Fig. 4; Fig. 6 a plan of another arrangement designed to accomplish the same purpose as that of Fig. 4; and Fig. 7 a detail of Fig. 6.

Referring now to the accompanying drawings, A designates as an entirety a car body having doors B on each side at the ends thereof, and a plurality of intermediate doors C suitably located on the side of the car intermediate the end doors. The purpose of so arranging and locating the doors relative to the car body is to create in such

a car, designed for condensed and changing traffic, a dead space, or eddy, in the car and indicated at D, through which it will not be necessary for a short-ride passenger to pass, and yet from which an exit may be made with comfort and despatch, especially when a turn-stile, and railing, or other suitable device, is located at the desired point on the station platform to direct the flow of passengers in the desired direction. To accomplish the rapid transfer of the passengers from the station to the car, and vice versa, with despatch and convenience, the locating of, say, two intermediate doors at suitable distances from the center of the car, and through which all the passengers must make their exit, I have found to be preferable. Passengers will find that by entering at the end doors and going into the space D between the two intermediate doors, they will be exempt to a considerable extent from crowding and pushing and yet can leave the car as readily as from any other portion. This is especially the case with passengers traveling a considerable distance who will be ordinarily forced by the passenger stream entering at the end doors into this space D. This tends to relieve the space E between the end and intermediate doors, facilitating a movement in comfort of short-ride passengers who ordinarily would occupy this space E.

The numerous advantages incident to my improved car will be readily understood, when such car is considered in connection with the cars ordinarily in use in cities of large population and of dense passenger traffic.

In the cars as heretofore equipped and with which I am acquainted, it is customary for passengers to enter and depart from one of the end doors, or, where center doors are used, from the end and center doors. Where the passengers are allowed to enter and depart from the same door, when traffic is heavy, confusion and congestion generally result, due to two causes: First, passengers expecting to leave the car at a near station, do not enter well into the waist of a car on account of the difficulty in getting out again when the station is reached. They usually stand near the door or in the passageway and obstruct the passage of other persons. I obviate this objection by my arrangement of car which creates an incentive for the passenger to enter well into the car and in-

sures that he will not be distant from a door
 when a station is reached. Second, in the
 type of car heretofore employed passengers
 desiring to leave the car usually encounter
 5 a considerable number of passengers desiring
 to enter the car by the same door. This
 creates great confusion. I obviate this con-
 fusion by so directing the traffic into the
 various doors of my car by means of turn-
 10 stiles, or otherwise, that the passengers de-
 siring to leave the car will find the interme-
 diate doors the direction of least resistance
 and open for their free exit, with no in-
 coming crowd to be forced aside, as would
 15 be the case if they attempted to leave at
 the end door.

As above stated, I direct the flow of pas-
 sengers in the desired directions by railing
 off a section of the station platform. This
 20 may be accomplished by the means shown
 in Figs. 4 to 7. In Fig. 4 a suitable rail-
 ing G, preferably of iron pipe, is support-
 ed in standards H set in the station plat-
 form I. The outer ends of the rails G ex-
 25 tend substantially to the edge of the plat-
 form and between their inner ends I place
 a series of turn-stiles J of any approved
 form which are adapted to turn in one direc-
 tion only, as indicated by the arrow. The
 30 rails G are so disposed on the platform that
 when the train is brought to a stop, they will
 lie between the entrance and exit doors of
 a given car as clearly shown, thus providing
 a space on the platform into which the exit
 35 passengers only may pass, and effectually
 excluding the ingoing passengers and com-
 pelling the latter to seek entrance through
 the doors B. Projecting rail sections *h*
 forming part of the turn-stile equipment
 40 prevent entrance to the railed-off space.
 When a car comes to a stop the entrance
 and exit doors are opened and the outgoing
 passengers discharged through doors C into
 the railed-off space, and the ingoing passen-
 45 gers enter through the doors B, thus obvi-
 ating any crowding or confusion.

The same result of compelling the two
 sets of passengers to pass in the desired di-
 rections, and of preventing any intermin-
 50 gling or confusion on the part of the passen-
 gers, may be accomplished by the arrange-
 ment shown in Fig. 6. In this form the
 rails K inclose a space accessible only to
 outgoing passengers, but, instead of turn-
 55 stiles for completing the inclosure, I provide
 a bar L which is supported in the ends of
 the rails K as shown in Fig. 7, and which
 may be moved longitudinally in the rail sec-
 tion *k* to provide an opening through which
 60 the outgoing passengers may pass. The exit
 between the rails K will be under the con-
 trol of a guard who will attend to the shift-
 ing of the bar L as may be necessary. These
 railed-off sections are distributed at proper
 65 points along the station platform so that

when the train is brought to a stop each
 car equipped with side exit doors will be
 brought opposite a closed section, and the
 entrance and exit of passengers accom-
 plished with a minimum loss of time. Ex- 70
 perience has shown that about twenty-five
 per cent. of the passengers leave the stations
 intermediate the terminals, and the closed
 or railed-off sections of the platform will,
 therefore, cover such area as may be expe- 75
 dient and determined by actual conditions,
 sufficient space being provided to prevent
 crowding or discomfort of the exit passen-
 gers. A further advantage of this control
 of the passenger traffic is that the train 80
 guards may close the side exit doors as soon
 as the last out-going passenger has left the
 car, and, as such passengers are usually less
 in number at crowded platforms than the
 ingoing passengers, the guard's attention 85
 may be given to the entrance doors B as soon
 as all the passengers are aboard the train.

In the ordinary cars provided with doors
 at the ends only the average passenger must
 traverse at least one-fourth the length of 90
 the car to get off, and a similar condition
 exists with the use of the side center door.
 By the use of my invention the passenger
 need traverse but approximately one-eighth
 the length of the car to get off with the result 95
 that the length of time the car must neces-
 sarily stop at the station is materially re-
 duced, and the discomfort of the passengers
 crowding through the passageway is
 avoided. With my invention the interfer- 100
 ence with the flow of traffic at both the en-
 trance and exit is avoided, and the comfort
 of the passengers materially increased by
 providing suitable spaces within the car to
 be occupied as is most convenient for the 105
 particular passenger, that is to say, a pas-
 senger traveling a relatively long distance
 will naturally occupy the convenient dead
 space D, while the short-distance passenger
 will occupy the spaces E, from which they 110
 may leave the car with comfort and de-
 spatch.

Having thus described my invention, what
 I claim is:

1. A car having an entrance door at each 115
 end of a side thereof, and two exit doors
 in said side spaced apart, and means located
 on a station platform adjacent to the car
 for preventing the entrance of passengers
 through the side exit doors. 120

2. The combination with a car provided
 with an entrance door at each end of a side
 thereof and two exit doors in said side
 spaced apart and intermediate said end
 doors, of means located on a station platform 125
 adapted to permit of passage from the plat-
 form to the car through said end doors only
 and of passage from the car to the platform
 through said side doors only.

3. A car having entrance and exit doors, 130

and means located on the station platform to direct the flow of passengers to compel ingress through the former and egress through the latter door.

5 4. A car having entrance doors and side exit doors, and rails so disposed on the station platform as to inclose a space separating the entrance and exit doors when a car is brought to a stop, to thereby leave
10 the car exits free for the discharge of passengers.

5. A car having entrance doors and side exit doors, and rails so disposed on the station

platform as to inclose a space separating the entrance and exit doors when a car is 15 brought to a stop, said section comprising turn-stiles which permit an exit only from the inclosed space to thereby leave the car exits free for the discharge of passengers.

In testimony whereof I have hereunto 20 signed my name in the presence of two subscribing witnesses.

HENRY S. PUTNAM.

Witnesses:

OTTO MUNK,

RICHARD B. CAVANAGH.