May 13, 1941. J. H. CLEMENS 2,241,377

RAILWAY CAR

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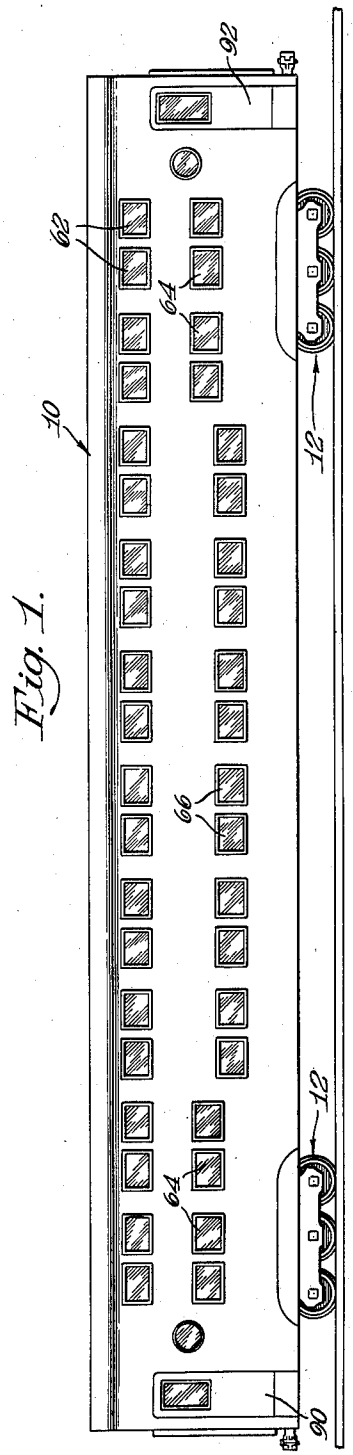


Fig. 1.

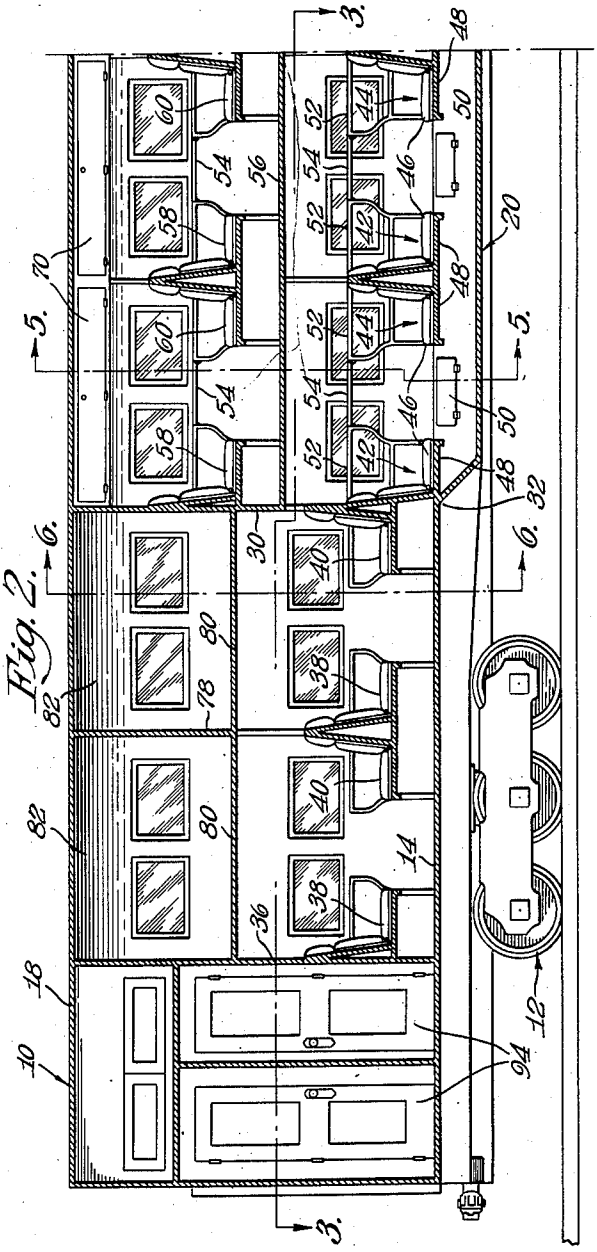


Fig. 2.

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Fig. 3.

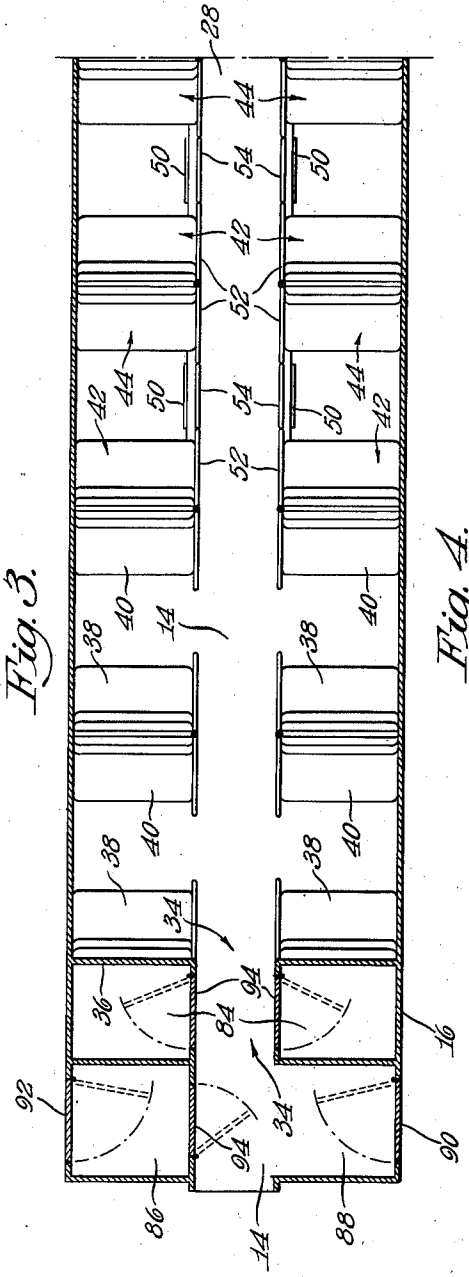
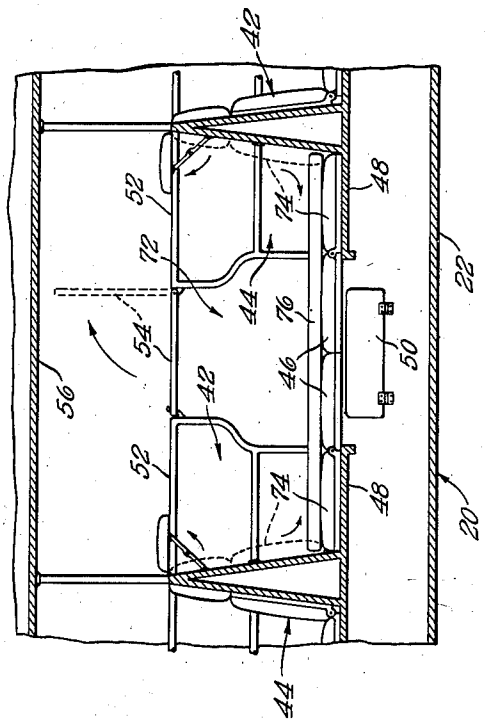


Fig. 4.



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Fig. 6.

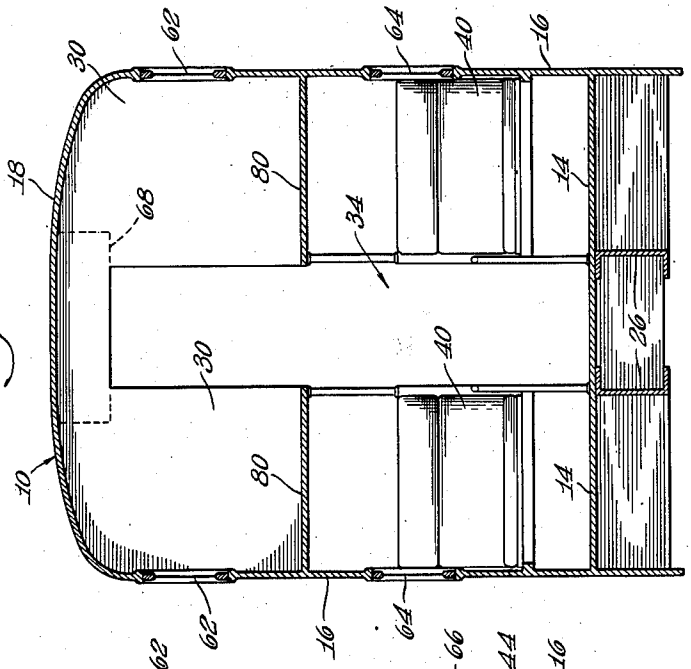
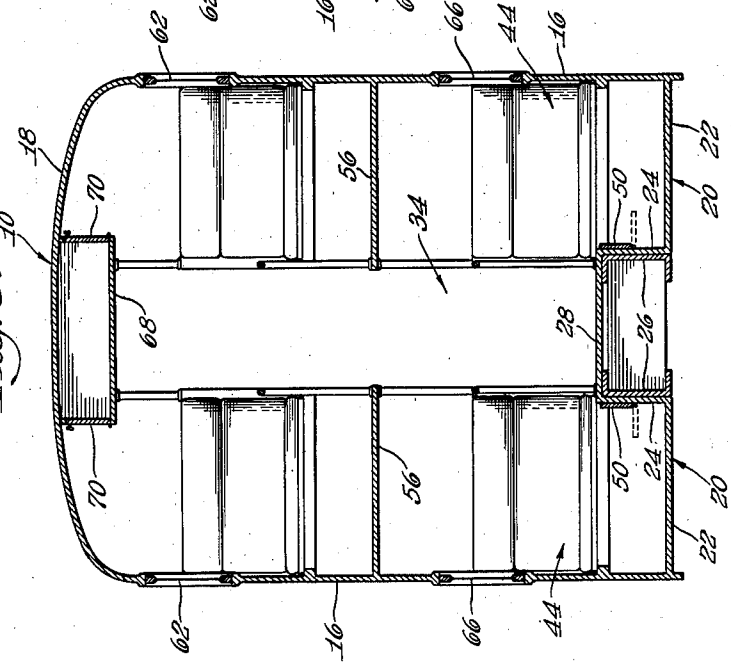


Fig. 5.



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UNITED STATES PATENT OFFICE

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RAILWAY CAR

Jerome H. Clemens, Chicago, Ill.

Application October 16, 1939, Serial No. 299,719

3 Claims. (Cl. 105—315)

My invention relates to railway cars and has among its objects the provision of an improved combination day coach and sleeping car.

An object of my invention is to provide a railway car having seating facilities arranged to provide seating accommodation for day passengers in the manner of conventional day coaches and in which the seating facilities are arranged in a novel manner for conversion into berths, with the berth arrangement accommodating a relatively greater number of passengers than is possible in conventional sleeping cars of equal size.

In the accompanying drawings:

Figure 1 is a side elevational view of a railway car embodying my invention;

Figure 2 is a view illustrating a short length of the car in side elevation with the wall of the car broken away for the sake of clearness;

Figure 3 is a view taken substantially along the line 3—3 of Figure 2;

Figure 4 is an enlarged detail view illustrating the manner in which the seats of the day coach may be converted into berths;

Figure 5 is a sectional view taken substantially along the line 5—5 of Figure 2; and

Figure 6 is a sectional view taken substantially along the line 6—6 of Figure 2.

In the embodiment selected to illustrate my invention, I make use of a railway car 10 which may be of conventional length, width and height, with the car provided with the usual trucks 12. The car includes the usual floor 14 and walls 16, as well as a roof 18 which is bellied in the usual manner, see Figs. 5 and 6.

Fig. 2 illustrates one end of the car with the side wall removed therefrom, which view illustrates the floor 14 as having a drop 20 at a point slightly inside the truck 12. The floor 14 is of the same construction at both ends of the car. Referring to Fig. 5, it will be noted that there are two drops 20, which drops extend the greater length of the car to provide an underslung structure. Fig. 5 illustrates each drop 20 as including a floor 22 and an upright wall 24 lying adjacent the channel or structural member 26 of the substructure of the car. Vertical walls 24 are interconnected by an aisle floor 28 which lies in the same plane as the floor sections 14 and constitutes a continuation thereof. The car is provided with partition walls 30 on each side thereof, which partition walls are located substantially above the line 32 at which the drops 20 become effective, see Fig. 2. The latter figure illustrates one end of the car only but each end is constructed in an identical manner so that the description of one will apply to both. In referring to Fig. 6, it will be noted that the partition walls 30 at that end of the car are spaced in accordance with the aisle space 34.

The end of the car illustrated in Fig. 2 is provided with vertical walls 36, and these walls are also spaced relatively to the aisle space 34 in the same manner as the walls 30, see Fig. 3. Between the walls 30 and 36, and upon each side of the car, I provide double seats 38 and 40, with the seats 38 facing the seats 40. Thus, the spacing between the partition walls 30 and 36 provides accommodation for four seats upon each side of the car. In association with each of the drops 20 I provide seats 42 and 44 with the seats 42 facing the seats 44. Both sides of the car are similarly provided with seats 42 and 44. Fig. 2 illustrates the seats 42 and 44 as being provided with cushions 46 lying upon supports 48 positioned in planes common to the floor sections 14, with the drops 20 providing the necessary leg accommodation. Between each of the associated seats 42 and 44 I provide a pivoted step 50 which normally lies in a vertical position, as illustrated in Fig. 5, with the steps arranged to be pivoted to a horizontal position to enable the passengers to step into the drops 20 with convenience.

To the side bar 52 of each of the seats 44 I pivotally connect a rail 54 which normally lies horizontally with its free end resting on the same side bar 52 of the associated seat 42. Thus, the side bars 52 and the pivoted rails 54 lie in end to end relation at the aisle sides of the two rows of seats located upon the opposite sides of the car. Side bars 52 and the rails 54 provide skeleton walls defining the aisle space 34 extending between the two rows of seats 42 and 44 upon opposite sides of the car. Rails 54 are of course lifted when the passengers step into the drops 20.

Upon each side of the car 10 between the partition walls 30 I provide overhead floors 56 which may be of continuous construction between the respective partition walls 30, best illustrated in Figs. 2 and 5. Upon the overhead floors 56 I mount seats 58 and 60, with the seats 58 facing their respective seats 60. Seats 58 and 60 are identical in construction with those illustrated at 42 and 44, which is also true of the seats 38 and 40. Thus, the car 10 is equipped with two lines of lower seats 42 and 44 located upon the lower floor structure of the car, in addition to two overhead lines of seats 58 and 60. Floors 56, while spaced so as to provide convenient accommodation for the passengers occupying the upper decks of the car, are positioned so as to provide ample head room for the passengers occupying the lower seats. Drops 20 increase the total interior height of the car so as to provide suitable spacing for the lower and upper seats.

Referring to Fig. 1, the car 10 is provided with upper windows 62 arranged for the convenience of the passengers occupying the upper seats, all of which windows are arranged

in a straight line. However, the windows 64 arranged for the convenience of the passengers occupying the seats 38 and 40 are positioned slightly higher than the windows 66 arranged for the convenience of the passengers occupying the seats 42 and 44. Inside the car 10 and longitudinally of the roof structure 18 I provide an enclosure 68 which extends between the partition walls 30 at one end of the car to the corresponding partition walls at its other end. Enclosure 68 is provided with a plurality of hinged doors 70 along each of its vertical sides, see Figs. 2 and 5. Thus, the enclosure 68 may be utilized for housing bedding employed in making up the berths of the car. Passengers occupying the upper seats 58 and 60 will be assisted thereto and therefrom by the porter through the aid of a suitable portable stepladder.

Fig. 4 illustrates the manner in which a seat 42 cooperates with a seat 44 to provide a berth 72. Seats 38 and 40 and 58 and 60 operate in the same manner. All the seats are of standard sleeping car construction. With respect to Fig. 4, suffice it to say that the cushions 46 are shifted to align with the back cushions 74 to provide a support for the mattress 76. Thus, it will be seen that the mattress lies in a plane slightly above the supports 48 which are positioned in a plane common to the floor sections 14. Thus, the lower seats are positioned considerably lower than is true in connection with conventional sleeping cars so as to provide suitable spacing for seating purposes, both with respect to the lower and upper seats.

Between the partition walls 30 and 36 I provide intermediate partitions 78 and floors 80. This arrangement provides four compartments 82 at each end of the car, which compartments may be utilized for storage purposes as well as sleeping compartments if desirable. The beds would of course be made on the floors 80, and the compartments are devoid of seats. Fig. 3 illustrates one end of the car as being provided with wash rooms 84 and a room 86 which may be utilized for accommodating equipment carried on the car. Thus, each car will be provided with four wash rooms 84 and two equipment or storage rooms 86. Fig. 3 also illustrates a space 88 and one of the walls 16 as being provided with a car entrance door 90. The other wall 18 will of course be provided with a similar door 90 at the other end of the car. Room 86 may also be provided with a door 92 in the wall 18 associated therewith. Rooms 84 and 86 are provided with doors 94 which communicate with the aisle space 34.

It will thus be seen that I have provided a railway car capable of handling as many day passengers as a conventional day coach of equal size and that the seating facilities are so arranged as to provide ample sleeping quarters for the same number of passengers. In addition, each day passenger has the benefits of a double seat. Thus, the combination day coach and sleeping car is so designed as to provide sleeping facilities for a greatly increased number of passengers in a car of given size. All the seats are spaced above their respective floors so as to provide accommodation for baggage which may be placed underneath the seats. Obviously, the car, for sleeping purposes, will be equipped with curtains such as are conventional accessories in standard sleeping cars.

Having thus described certain embodiments of my invention in detail, it is, of course, understood that I do not desire to limit the scope thereof to the exact details set forth except insofar as those details may be defined in the appended claims.

I claim:

1. In a sleeping car of substantially standard dimensions having a floor and trucks located underneath the floor, said floor having dropped areas along the sides of the car and between said trucks with the floor between the dropped areas comprising an aisle floor, overhead floors extending along the sides of the car above said dropped areas and spaced one from the other a distance substantially equal to the width of said aisle floor, lower seats located along said dropped areas, upper seats mounted on said overhead floors, said upper seats being arranged in vertical alignment with said lower seats, said overhead floors being located at such heights with respect to said dropped areas and the top of the car as to provide ample head room for passengers occupying the lower seats and the upper seats respectively, and a storage enclosure extending longitudinally of the car vertically above the space between said overhead floors.

2. In a sleeping car of substantially standard dimensions having a floor and trucks located underneath the floor, said floor having dropped areas along the sides of the car and between said trucks with the floor between the dropped areas comprising an aisle floor, overhead floors extending along the sides of the car above said dropped areas and spaced one from the other a distance substantially equal to the width of said aisle floor, lower seats located along said dropped areas, upper seats mounted on said overhead floors, said upper seats being arranged in vertical alignment with said lower seats, said overhead floors being located at such heights with respect to said dropped areas and the top of the car as to provide ample head room for passengers occupying the lower seats and the upper seats respectively, a storage enclosure extending longitudinally of the car vertically above the space between said overhead floors, seats mounted on the floor of the car above the trucks, wash rooms located at the ends of the car, and storage compartments located above said last-named seats.

3. In a sleeping car of substantially standard dimensions having a floor and trucks located underneath the floor, said floor having dropped areas along the sides of the car and between said trucks with the floor between the dropped areas comprising an aisle floor, coplanar floors spaced vertically above said aisle floor and spaced apart laterally of the car to provide an aisle space between the coplanar floors, lower seats located along said dropped areas, upper seats mounted on said coplanar floors, said upper seats being arranged in vertical alignment with said lower seats, and said coplanar floors being located at such heights with respect to said dropped areas and the top of the car as to provide ample head room for passengers occupying the lower seats and the upper seats, respectively.

JEROME H. CLEMENS.