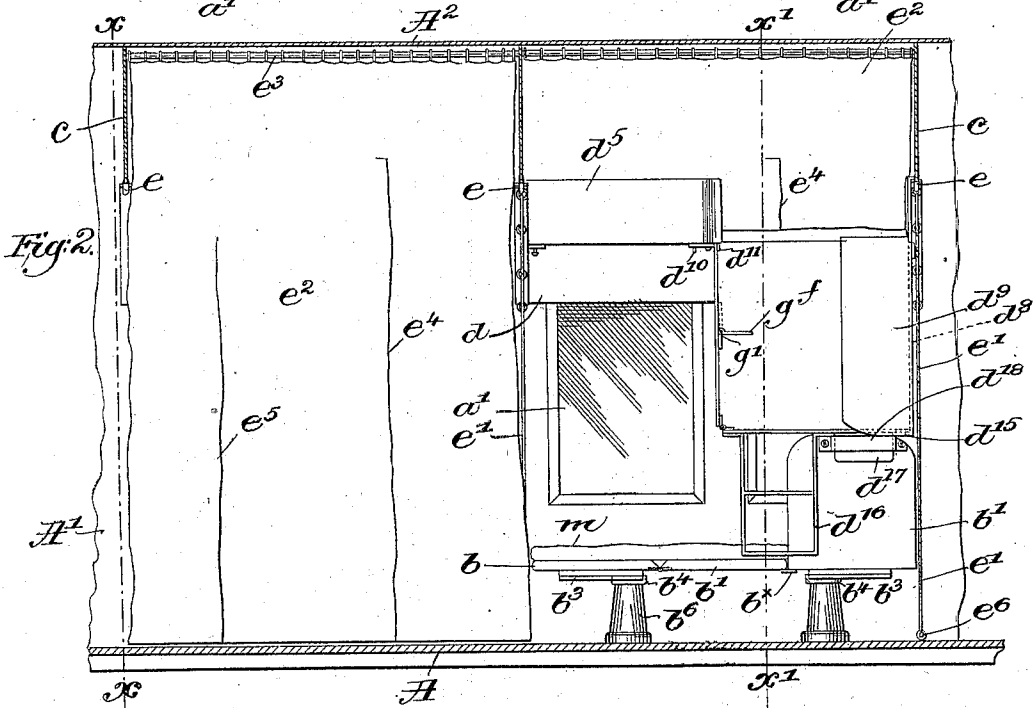
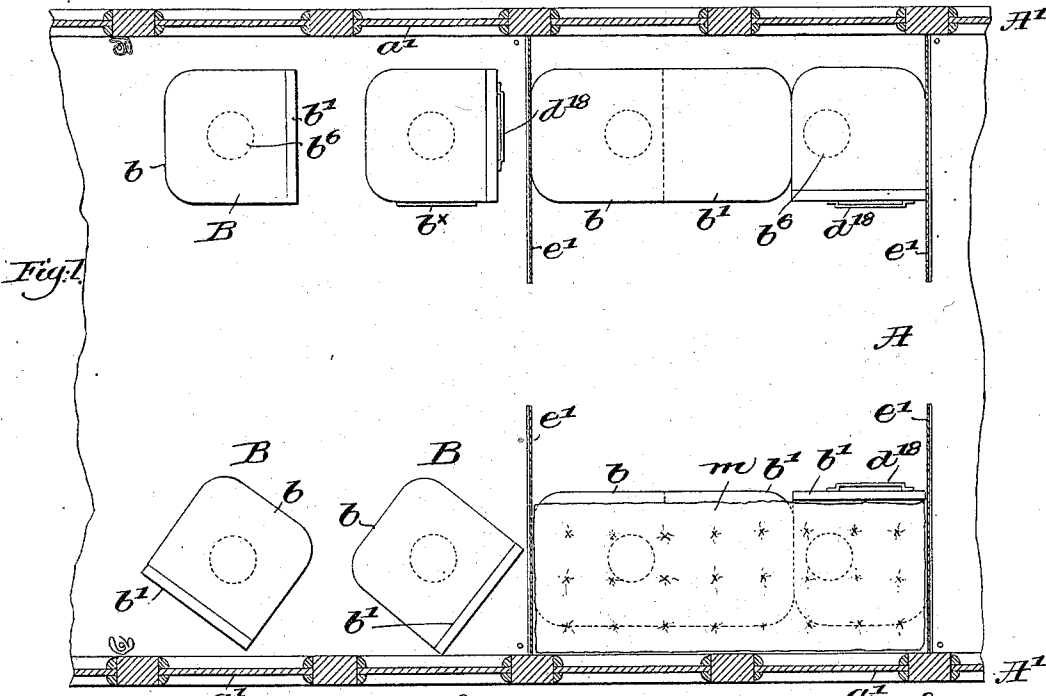


J. L. BIXBY, Jr.
COMBINED DAY AND SLEEPING CAR.

No. 552,629.

Patented Jan. 7, 1896.



Witnesses.
Edward F. Allen
Thomas Summord

Inventor.
John L. Bixby, Jr.
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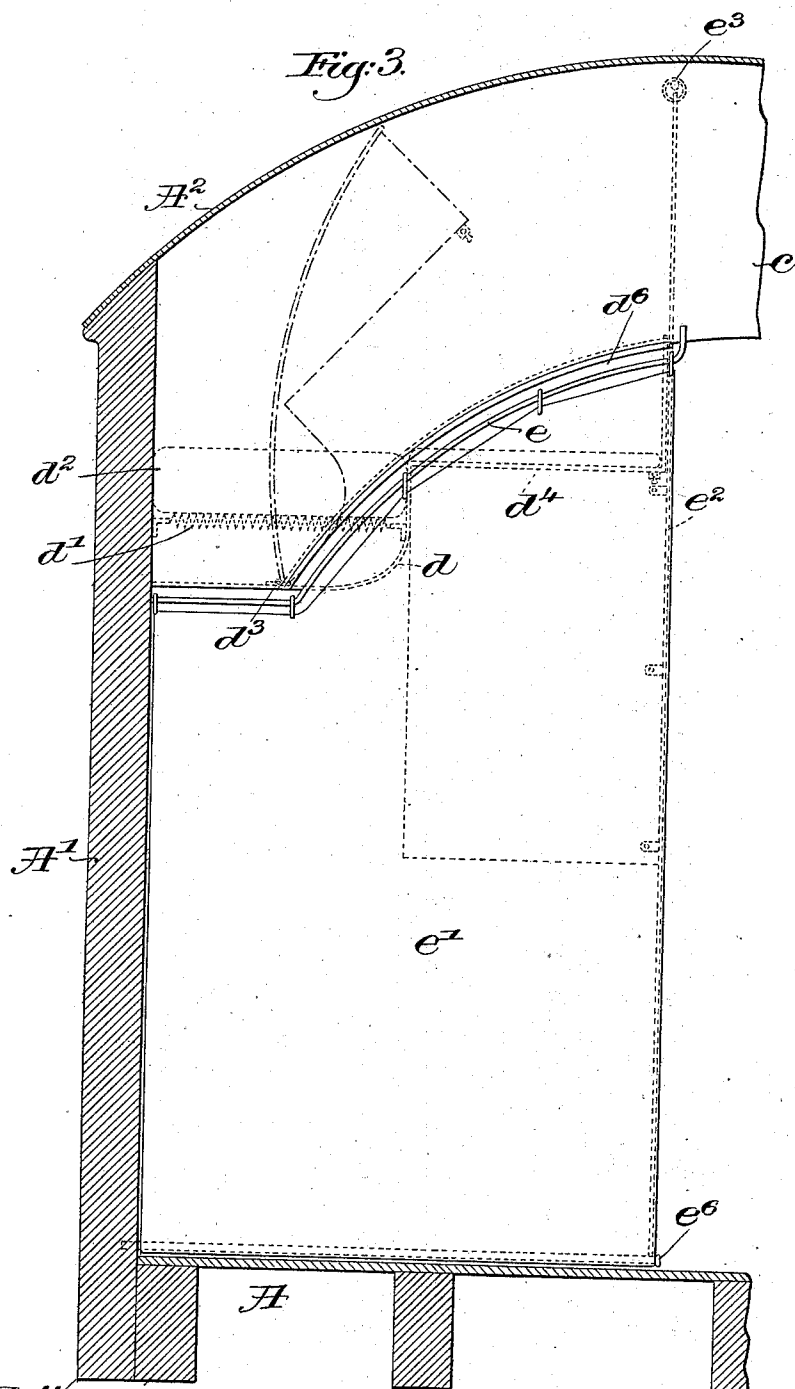
(No Model.)

4 Sheets—Sheet 2.

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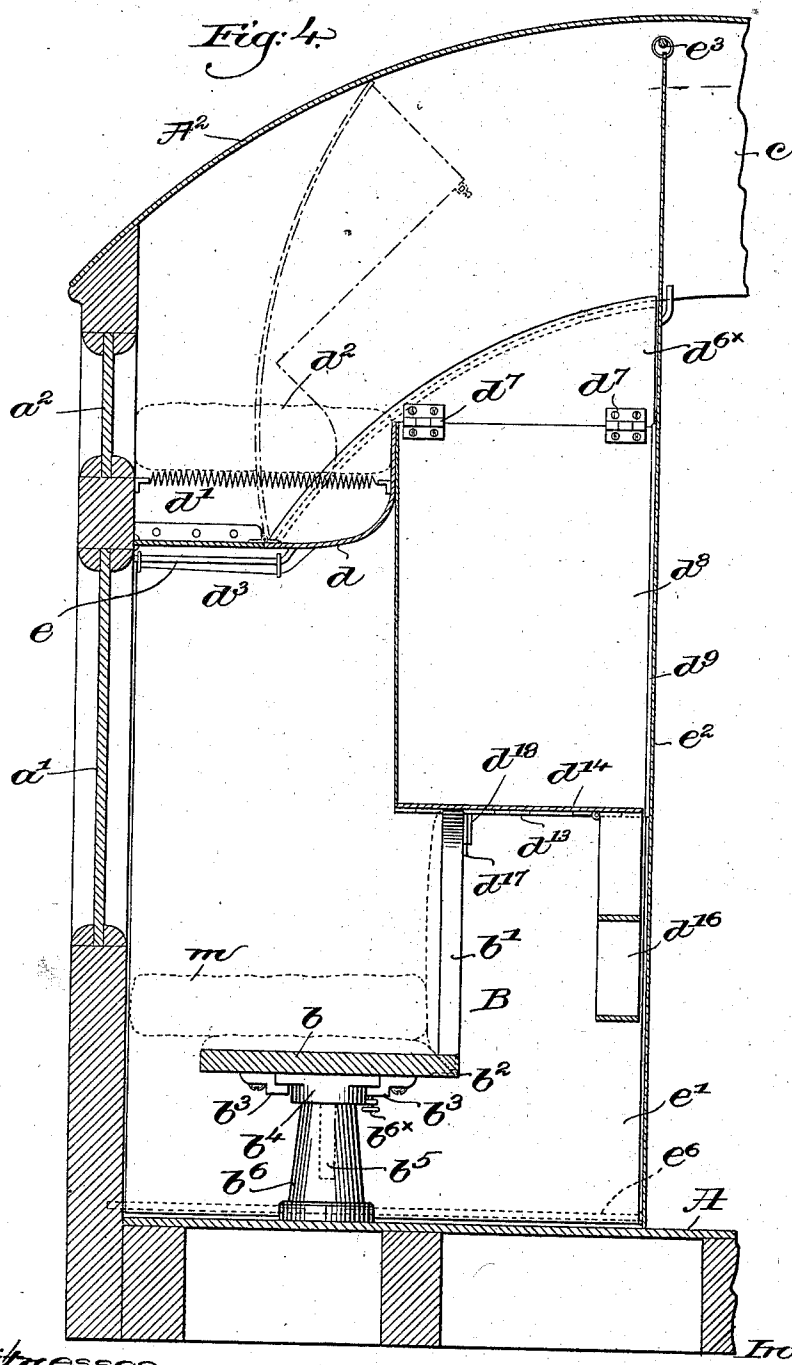
(No Model.)

4 Sheets—Sheet 3.

J. L. BIXBY, Jr.
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No. 552,629.

Patented Jan. 7, 1896.



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(No Model.)

4 Sheets—Sheet 4.

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Fig: 5.

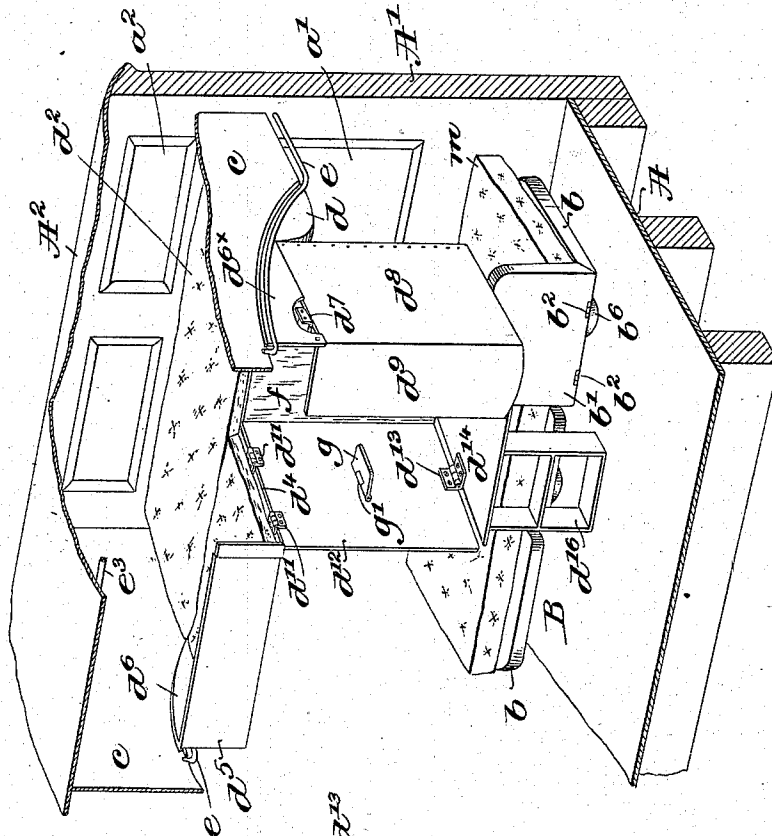
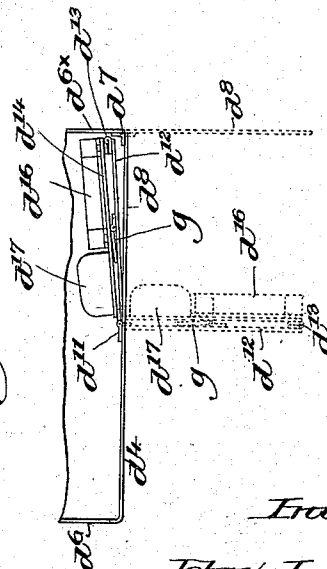


Fig: 6.



Witnesses.
Edward F. Allen.
Thomas F. Summmond.

Inventor:
John L. Bixby, Jr.
by Crosby & Gregory, Attys.

UNITED STATES PATENT OFFICE.

JOHN L. BIXBY, JR., OF ARLINGTON HEIGHTS, MASSACHUSETTS.

COMBINED DAY AND SLEEPING CAR.

SPECIFICATION forming part of Letters Patent No. 552,629, dated January 7, 1896.

Application filed February 23, 1895. Serial No. 539,350. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. BIXBY, JR., of Arlington Heights, county of Middlesex, State of Massachusetts, have invented an Improvement in a Combined Day and Sleeping Car, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to combined day and sleeping cars, having upper and lower berths arranged in independent or isolated state-rooms or compartments, whereby the occupant of each berth is accorded strict privacy.

15 In another application, Serial No. 527,218, filed October 29, 1894, I have shown and claimed a novel arrangement or grouping of state-rooms having L-shaped sections, whereby a large number of independent state-rooms or compartments are concentrated in the smallest possible space, the L-shaped state-rooms in my said application being arranged with the horizontal portion of one crossing the top or bottom of the vertical or standing portion of the other of the same group.

20 My present invention has for its object to improve the car shown and described in my previous application referred to, and I accomplish this object by arranging the sleeping portions of the two state-rooms of a single group one directly above the other, the standing portions of the two state-rooms being at the same side of their respective sleeping portions, and preferably side by side. By 25 this arrangement I am enabled to enter both state-rooms from the side of the car.

In my former application referred to, the day-seats are at night dropped to the floor-level and so turned as to constitute a mattress-support for the lower berth.

30 In my present invention the seats are simply turned into proper position without dropping them, and the mattress laid upon the same, one of the seats being preferably employed as a support to hold the folding parts of the upper berth or berths in proper position when in use.

35 In the drawings, Figure 1 is a horizontal section through the middle or body portion of a car of usual construction, said figure showing four sections of the car, the seats in two of the sections at the left being shown as

arranged for day service, the seats in the upper right-hand corner being shown as arranged for night service without the mattress thereupon, and at the lower right-hand corner arranged to show the mattress resting thereupon. Fig. 2 is a vertical section through the aisle of a car, showing at the right the berths or state-rooms with the lower portion of the curtain removed, while at the left the curtain is shown in position, concealing the parts back of it. Fig. 3 is a vertical section, on an enlarged scale, taken on the dotted line $x\ x$, Fig. 2, looking to the right, showing the curtains in position. Fig. 4 is a vertical section on the dotted line $x' x'$, Fig. 2, also looking to the right; Fig. 5, a perspective view showing the parts in readiness for night service, and Fig. 6 is a diagram illustrating the folding or closing of the upper state-room.

Referring to the drawings, in the embodiment of my invention there shown to enable my invention to be understood, A is the floor of a railway-car of usual construction, A' being the side walls fitted with usual main windows a' and transom-windows a^2 , and A² the roof of usual construction.

Within the car-body I use state-rooms having L-shaped sections as in my previous application; but in my present invention I arrange along opposite sides thereof, one preferably opposite each window, the reclining chairs or seats B, shown as comprising a seat portion b and a back b' hinged to the seat at b^2 , the seat being herein shown as provided with suitable guides b^3 adapted to slide upon a head b^4 , pivoted at b^5 to and adapted to revolve on a suitable standard b^6 . The seat is clamped in position upon the head b^4 by means of a suitable clamping device, as a screw b^{6x} . (See Fig. 4.)

Between each pair of windows on each side of the car I have arranged elevated partitions c , which start preferably at a level between the main and transom windows a' and a^2 , and swing in a curve approximating that of the roof across, over the aisle, to the opposite side of the car, and between each pair of elevated partitions c , I have arranged the upper berths d , in the present instance made hollow to receive the mattress-support d' and the mattress d^2 resting thereupon, as indicated in dotted lines, Fig. 4.

The inner half or portion of the upper berth d is divided from the outer portion next the car-wall, and is hinged thereto, as shown at d^3 , Fig. 4, and adapted to be turned into its dotted position, as indicated in said figure. 5 The hinged portion of the upper berth d at one end is shown provided with an extension portion d^4 , (shown best in Fig. 5,) of a length substantially half that of the upper berth, and 10 of a width approximately equaling that of said berth, it reaching to the middle aisle of the car, said extension portion d^4 having an upturned edge or flange d^5 , (best shown in Fig. 5,) said flange d^5 being connected at its end with the 15 upper berth proper by an inwardly and downwardly curving flange-piece d^6 , as shown. At its opposite end the upper berth d is provided with a similar inwardly and downwardly curved flange-piece d^{6x} , to the lower edge of 20 which is hinged at d^7 the aisle-section d^8 , which, when turned into its full-line position, Fig. 6, forms a substantial continuation to the extension portion d^4 , said side portion d^8 having a flange d^9 , which, when the said side portion is raised, forms a continuation of the 25 flange d^5 .

The side member d^8 and the extension d^4 may be locked together in their dotted positions, Fig. 2, by a suitable locking device d^{10} . 30 (See Fig. 2.) To the inner edge of the extension d^4 is hinged at d^{11} a side member d^{12} , to the lower edge of which is hinged at d^{13} the platform d^{14} , resting at its edge opposite the hinge d^{13} upon one or more lips d^{15} on the side member d^8 . (Shown in Figs. 2 and 4.) Steps 35 d^{16} are hinged in suitable manner to the side of the platform d^{14} . The platform d^{14} at its side adjacent the wall of the car is shown provided with a depending locking-plate d^{17} , 40 adapted to be inserted in a corresponding socket or eye formed by a plate d^{18} suitably attached to the back of one of the chairs.

Referring to Fig. 5, which shows the parts in position for night service, the operation 45 necessary to convert the parts into suitable condition for day service is as follows, viz: The platform d^{14} is first turned back against the side member d^{12} , as shown in dotted lines, Fig. 6, and the steps d^{16} are turned inwardly 50 and folded against the under side of the platform in its vertical position. The side member d^{12} is then turned about its hinges d^{11} into horizontal position, (indicated by full lines, Fig. 6,) and the side member d^8 turned 55 about its hinges also into horizontal position under and supporting the side member d^{12} , as shown, the said side member d^8 being locked to and so as to form in effect a continuation of the extension portion d^4 by means of the 60 locking device d^{10} referred to. The mattress for the lower berth is now placed upon the top of the mattress d^2 for the upper berth, and the movable portion of the upper berth turned bodily about its hinges d^3 against the 65 roof of the car, as shown in dotted lines, Fig. 4. The chairs b are now turned into suitable position and the transformation is complete.

To convert the car from day to night service the two chairs beneath the upper berth 70 in the section in which the transformation is to be made are turned into their positions shown at the upper right-hand corner of Fig. 1, the first chair being turned into position facing the window and slid bodily to the right 75 on its guideways, as shown, its next adjacent chair being turned back to it, and its back turned down into horizontal position, with its free end—that is, its top—resting upon a suitable flange b^x standing from under side 80 of the seat of the other chair referred to. The upper berth is now turned down into a horizontal position, Figs. 3, 4 and 5, and the mattress m for the lower berth removed and 85 placed upon the chairs, as shown at the lower right-hand corner, Figs. 1 and 5. The side member d^8 is now turned into its position, Fig. 5, and the side member d^{12} and platform d^{14} in turn swung into the positions there 90 shown, and the transformation from day to night service is complete.

To isolate the compartments one from the other, I provide suitable curtains as follows, viz: The elevated portions $c c$ are provided at opposite sides of the car with curtain-rods 95 $e e$, upon which are hung suitable curtains e' . These curtains when drawn toward the aisle of the car to the ends of their rods e form the ends of the lower state-room, the ends of the upper state-room being formed by the upper partitions $c c$ and the side members d^8 100 d^{12} . A third curtain e^2 , normally concealed in the upper berth, and removed when the said upper berth is lowered, is now dropped in front of and concealing the entire section, as shown in Fig. 2, this curtain being run 105 upon a suitable rod e^3 at the top of the car. The curtain e^2 is herein shown as slitted in a vertical line e^4 in order that it may be thrown aside to permit the occupant of the upper state-room to reach the platform d^{14} by means 110 of the steps d^{16} , after which it may be drawn together and suitably fastened at the inside. The said curtain is also preferably slitted along the vertical line e^5 to enable the occupant of the lower state-room to enter the latter, he fastening it together at the inside as 115 in the case of the upper state-room. The curtain e^2 is also fastened to and along the line of the several partitions or members dividing the state-rooms of the group, and to the end 120 curtain of the group in suitable manner. A curtain f attached to the edge of the upper berth and to the inner edge of the platform d^{14} , as well as to the edges of the side members d^8 and d^{12} , forms a partition between the 125 standing room of the upper state-room and the sleeping portion of the lower state-room.

It will thus be seen that in the space of a "section," known as such in usual sleeping-cars of to-day, I provide two berths, an upper 130 and a lower, arranged in two state-rooms completely independent—that is, isolated one from the other—leaving the occupant of either one in entire seclusion from the remainder

of the car, and from the occupant of the other state-room of its group.

My improved car will accommodate as many individuals as will the usual sleeping-car of to-day of the same size.

The curtains e' and e^2 may be fastened to the frame of the car in suitable manner; but I prefer that the end curtains e' be held down by a suitable rod e^6 passing along the bottom of the curtain and screwed into a suitable socket in the wall of the car.

When the transformation from night to day service is made, this rod is unscrewed and turned into a vertical position against the wall of the car, the curtain having been slid down on its curtain-rod e and tied in attractive manner against the wall of the car, the several curtains at each side of the car thus forming, in effect, draperies, which add rather than detract from the interior appearance of the car.

The extension portion d^4 of the upper berth provides a convenient seat, and also a place for storing packages or articles of clothing, and a similar storage place beneath the platform d^{14} is also provided for the occupant of the lower state-room.

In the drawings I have shown the upper berth as provided with a step g hinged to the side member d^{13} at g' , so that it may be folded against the said side member when the transformation from day service to night service is to be made.

The lower berth may be made up and used without the upper if a single occupant wishes to have the entire section to himself, and if it is desired to divide off the car to isolate any section during the day-time the curtains e and e' may be thrown around the section, thus forming an attractive and convenient means for giving to any party desired seclusion.

The sleeping portions of the two state-rooms, which are those portions containing the berths or mattresses, are, it will be noticed, one vertically above the other, and the standing portions of the two state-rooms are at the same side of their respective sleeping portions and are also side by side, and these standing portions with the adjacent portions for the storage of packages or articles of clothing referred to constitute L-shaped sections, so that each state-room, as herein shown, comprises a horizontal or sleeping portion, which is that portion containing the berth or mattress, and an L-shaped section comprising the standing portion, which is the vertical portion of the L, and the baggage or storage portion, which is the horizontal portion of the L, these L-sections being arranged with the horizontal portion of one crossing the top or bottom of the vertical portion of the other much as in my previous application referred to. The state-rooms also present L-shaped sections grouped as described upon a section taken on a ver-

tical plane transversely of the car through the standing platform for an upper berth.

The upper berth may be locked in its elevated position in any suitable or desired manner.

My invention is not limited to the particular construction herein shown, for the same may be varied without departing from the spirit and scope of the invention, and it is evident that while I have herein shown my improved state-rooms as they will be used in railway-cars, yet the same grouping is adapted for steamships or for other uses.

I claim—

1. The combination with a body, of the state-rooms having L-shaped sections grouped as described, with the horizontal portions of the said L-shaped sections extended respectively over and under the vertical portion of the L-shaped section of the adjacent state-room, and mattress supports in the respective state-rooms and arranged one vertically or substantially so above the other, substantially as described.

2. The combination with a body, of the upper and lower state-rooms, arranged as described with the sleeping portions arranged one above the other, and having L-shaped sections grouped as described with the horizontal portions of the said L-shaped sections extended respectively over and under the vertical portions of the L-shaped sections of the adjacent state-room and at one side the sleeping portions, substantially as described.

3. The combination with a body, of the upper and lower state-rooms, arranged as described, with the sleeping portions one above the other, and having L-shaped sections grouped as described with the horizontal portion of the said L-shaped sections extended respectively over and under the vertical portions of the L-shaped sections of the adjacent state-room, and at one side the said sleeping portions and folding or movable partitions dividing and inclosing the said state-rooms, substantially as described.

4. A body, an upper hinged berth, and a standing platform carried thereby and adapted to be dropped below the said berth when the latter is to be used and to be folded up with said berth when not in use, substantially as described.

5. A body, an upper hinged berth provided with a standing platform, and side members hinged to the upper berth and adapted when dropped to support the said platform, substantially as described.

6. A body, an upper hinged berth provided with the standing platform, and side members therefor; and the steps depending from the said standing platform, substantially as described.

7. A body, the chairs therein adapted to be positioned to receive and support a mattress, the upper hinged berth provided with a stand-

ing platform adapted to be dropped for use, and the side members supporting the said standing platform, substantially as described.

8. A body, rotatable chairs therein, one of
5 which is provided with a hinge back adapted to be turned into horizontal position to constitute with its seat and the seat of the adjacent chair a mattress-support; and an upper
10 hinged berth provided with a standing platform adapted to be dropped for use, and the side members supporting the same, substantially as described.

9. A body, the elevated partitions *c* constituting the ends for the upper state-room, the
15 upper berth hinged to swing between the said partitions and provided with a standing platform adapted to be dropped for use; and the

chairs to constitute supports for the mattress of the lower state-room, substantially as described. 20

10. The upper hinged berth, its standing platform *d*¹⁴, carried by and adapted to be turned up with said berth when not in use, the side members, and the curtain *f*, and the end and front curtains all arranged and to
25 operate, substantially as described.

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

JOHN L. BIXBY, JR.

Witnesses:

FREDERICK L. EMERY,
EMMA J. BENNETT.