

July 12, 1927.

T. DE ROODE

1,635,467

CAR

Filed June 13, 1924

4 Sheets-Sheet 1

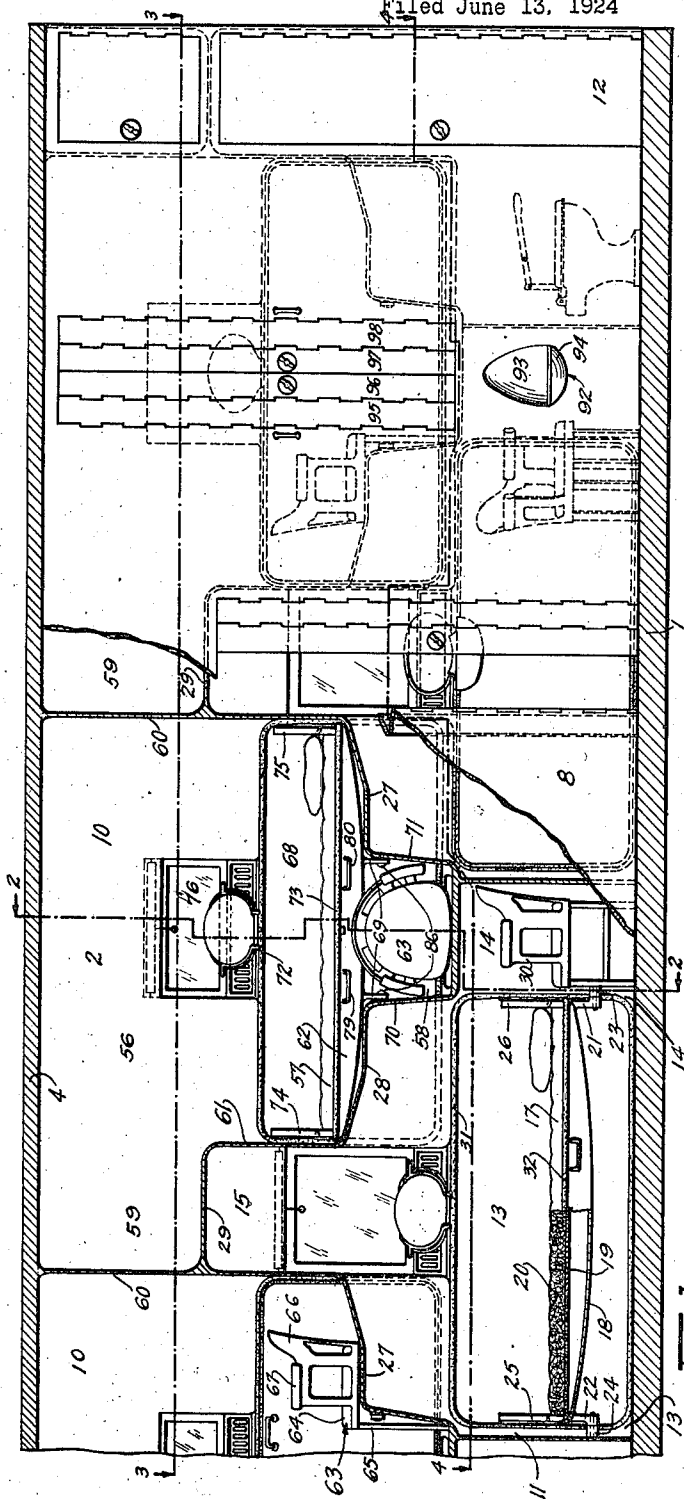
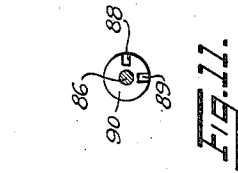
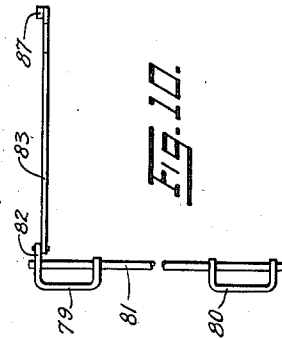
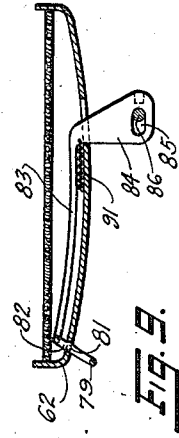


FIG. 1.

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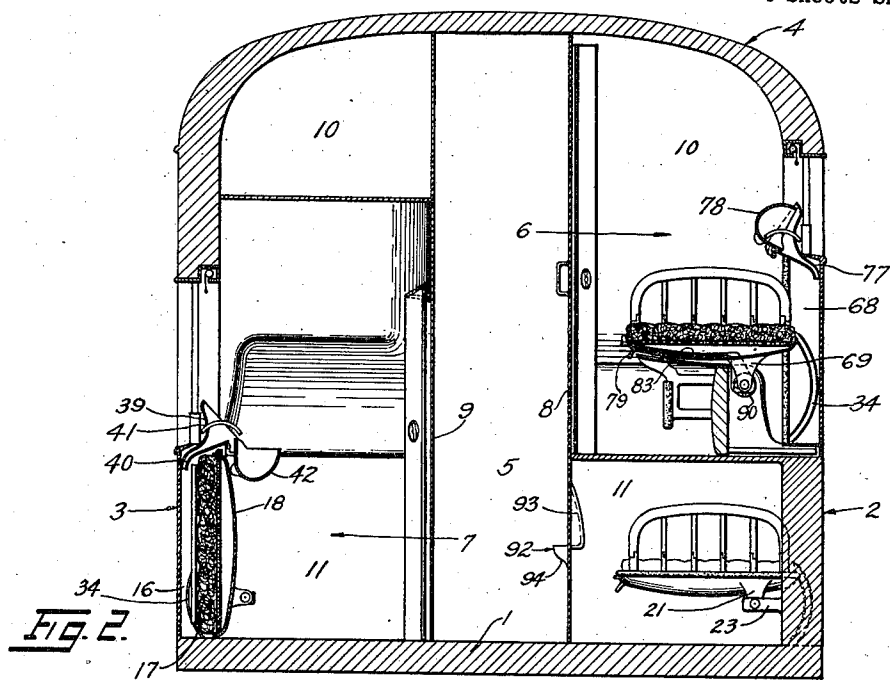
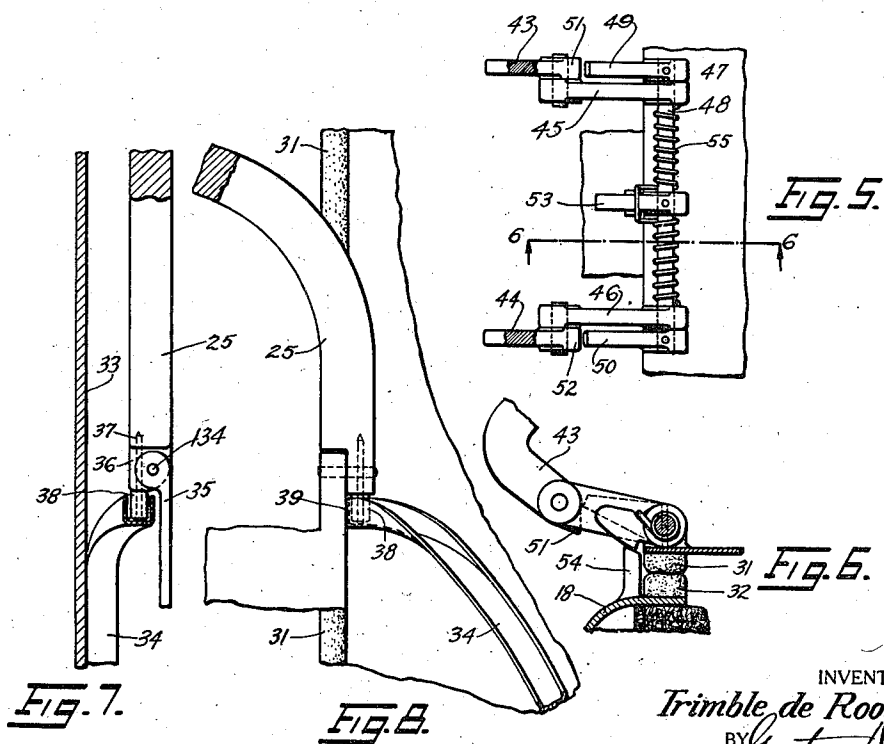
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4 Sheets-Sheet 2



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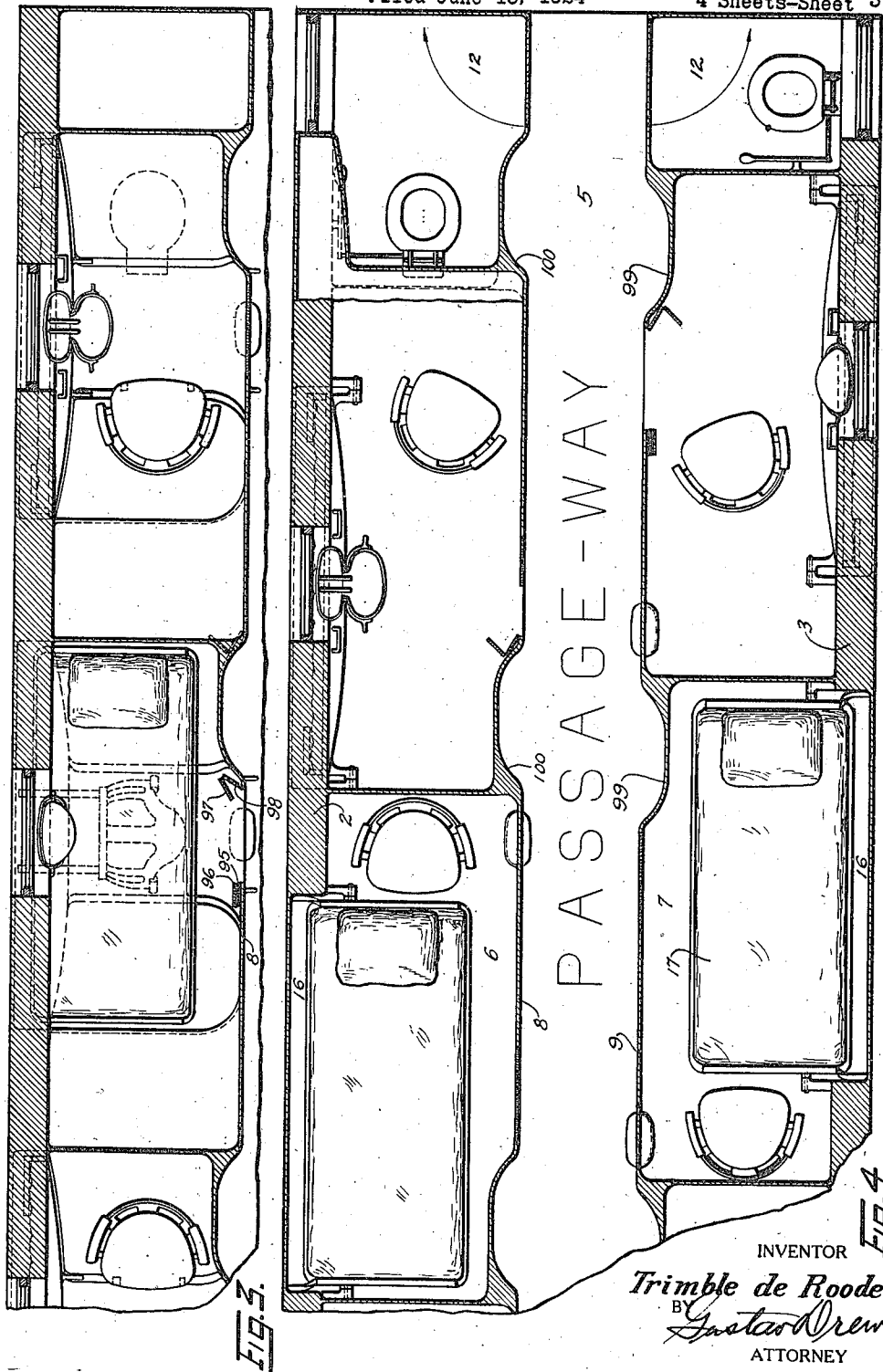
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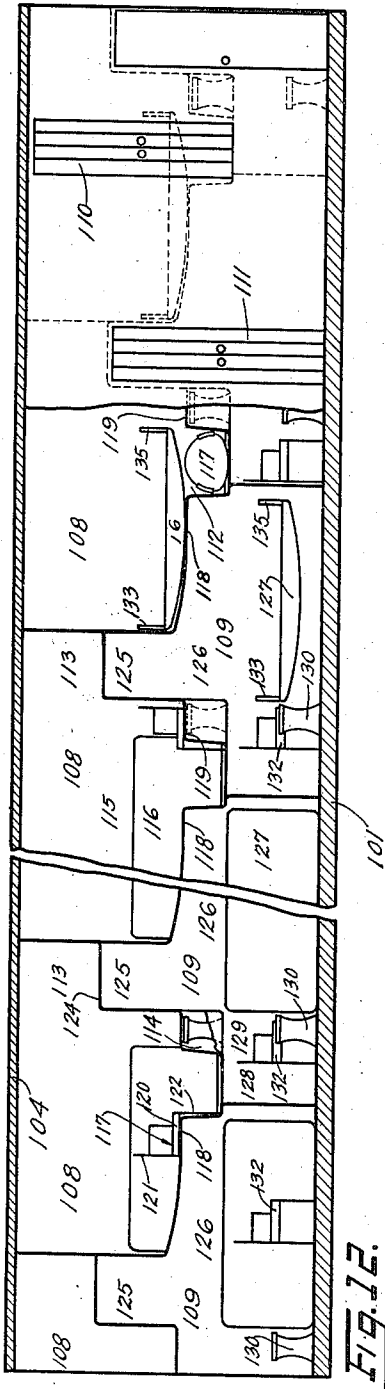


FIG. 12.

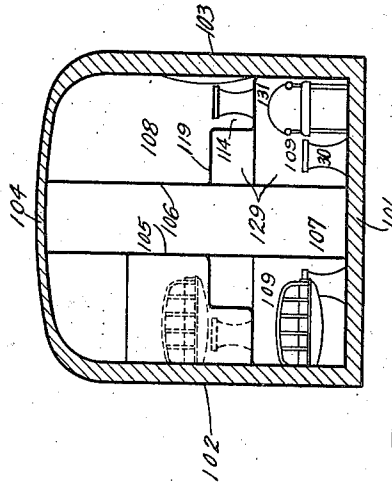
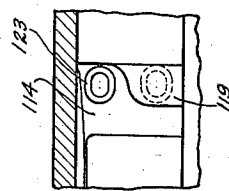


FIG. 14.



UNITED STATES PATENT OFFICE.

TRIMBLE DE ROODE, OF NEW YORK, N. Y.

CAR.

Application filed June 13, 1924. Serial No. 719,773.

This invention relates to sleeping cars in general and more especially to cars having central passageways with sleeping provisions to either side of the passageways.

5 With the sleeping cars heretofore in use particularly in the United States, of the type having upper and lower berths, the lower berths have been at a premium, and frequently cars have left the terminals without
10 a single occupant in the upper berths.

Among the objects of the present invention it is aimed to provide a sleeping car in which the objections to the upper berths of today are entirely overcome; the upper berths
15 made as attractive as the lower berths of the present improved type; and the upper berths made decidedly more attractive than either the upper or lower berths of the ordinary sleeping car today in use.

20 With the sleeping car today generally in use in the United States of the type having a central corridor or passageway with sleeping berths to either side thereof, the element of privacy is entirely lacking either
25 for day use or night use, and no provision whatever made for private lavatories. Furthermore, with the standard type of sleeping car aforesaid the common lavatories in the mornings as a rule are over-crowded causing
30 the passengers constantly to interfere with one another. In view of these objections, the present invention aims to provide a sleeping car in which a car of standard size construction may readily be equipped with separate
35 and individual lower and upper compartments longitudinally arranged relative to the car on either side of a central passageway, and in which each compartment is provided with its own individual lavatory.

40 Among other objects of the present invention, it is aimed to provide a sleeping car of standard size both as to length and width, in which the number of sleeping quarters is the same as that heretofore provided with
45 the standard sleeping car, and in which the sleeping quarters are also arranged to either side of a central passageway and longitudinally of the car, in which, however, the quarters are entirely individual and separate from one another and each provided
50 with a separate and individual communication with the central corridor.

55 A still further object of the present invention is to provide a sleeping car of standard size, having the standard number of sleeping quarters, and such sleeping quarters

arranged to either side of the central corridor, in the construction of which car advantage is so taken of the available space, that
60 greater convenience is afforded to the occupant of each sleeping quarter; private lavatories provided for each sleeping quarter, and in addition thereto instead of the customary number of toilets provided with the
65 standard car today, two additional toilets provided, or four in number.

The present invention still further contemplates in a sleeping car of the type used today in the United States as aforesaid, the provision of a window for the upper sleeping
70 quarter. To this end, the invention specifically contemplates the arrangement of the upper and lower sleeping quarters so that the upper sleeping quarters are provided with beds, and with wells or recesses
75 to receive such beds at a comparatively low level relative to the level of the floor so as to afford room above such wells or recesses for the provision of windows for the upper
80 sleeping quarters, and in which arrangement the beds and recesses for receiving the beds of the upper sleeping quarters are longitudinally spaced apart to afford spaces for windows for lower sleeping quarters.

85 The present invention further contemplates utilizing the space in a vertical direction in a sleeping car of the type aforesaid, so as to afford individual and private upper and lower compartments to either side of a central passageway, each compartment of
90 which can conveniently accommodate a passenger in standing position. To this end, the invention specifically contemplates the provision of upper and lowered sleeping quarters arranged in a staggered relation,
95 with the ends of the upper sleeping quarters overlapping the ends of the lower sleeping quarters, a space provided between successive upper sleeping quarters to afford standing room for the lower sleeping quarters,
100 and a space provided between successive lower sleeping quarters to provide standing room for the upper sleeping quarters, and also contemplates the alternate use of portions of the space in both the upper and
105 lower sleeping quarters for the bed or chair of the respective sleeping quarter.

Specifically, the invention still further contemplates a car of standard size as aforesaid having individual upper and lower com-
110 partments, in which car the same number of sleeping quarters are provided as those

today in use with the addition that a space is afforded in each of the sleeping quarters or compartments to receive a rigid, non-collapsible chair during the night or during the time when the bed is used, so that during the day time when the bed may be closed up out of the way the chair is readily accessible for the use of the individual without leaving his compartment.

The invention still further contemplates in a car of the type aforesaid the provision of independent and separate upper and lower compartments each provided with a bed, which compartments can readily be arranged for day or night use, without disorganizing the bedding or bed clothes and without the services of an attendant so that when the room is arranged for night use with the bed in open position, the bed can with facility be again temporarily closed and again reopened without disorganizing the bedding or bed clothes and without requiring the services of an attendant to rearrange the same.

Heretofore attempts have been made to provide sleeping compartments which could be used in the day time as sitting rooms, but in these instances, the bed either remained as such, exposed to view as a bed and in some instances intended for use as a seat or lounge, or else the bed was disposed of by collapsing the same and entirely altering the arrangement of the same, so as to require the services of an attendant to rearrange the same for use as a bed. With these instances in view, the present invention further contemplates the provision, in a car of the type aforesaid, of compartments equipped with disappearing beds which compartments may be interchangeably converted into sleeping compartments or sitting rooms.

These and other features, capabilities and advantages of this invention will appear from the subjoined detail description of embodiments thereof illustrated in the accompanying drawings in which,

Figure 1 is a fragmental section longitudinally of a car made according to the present invention.

Fig. 2 is a transverse section on the line 2—2 of Fig. 1.

Fig. 3 is a fragmental section on the line 3—3 of Fig. 1.

Fig. 4 is a fragmental section on the line 4—4 of Fig. 1.

Fig. 5 is a fragmental enlarged detail in plan of the latch mechanism for anchoring in closed position the bowl illustrated in Figs. 1 to 4.

Fig. 6 is a section on the line 6—6 of Fig. 5 of the latch mechanism aforesaid.

Fig. 7 is a fragmental section enlarged showing the connection of the foot board with a guide for closing the foot board when the bed to which it is attached is swung into closed position.

Fig. 8 is a fragmental, enlarged detail of the same connection illustrated in Fig. 7 looking at it from another angle.

Fig. 9 is a side elevation partly in section, and

Fig. 10 is a plan of a locking mechanism used for the beds with the present invention.

Fig. 11 is a detail in side elevation of part of the locking mechanism.

Fig. 12 is a fragmental view showing schematically another form of sleeping car made according to the present invention.

Fig. 13 is a fragmental plan view in section showing the arrangement of individual toilets in the modification illustrated in Fig. 12.

Fig. 14 is a transverse section of the modification illustrated in Fig. 12.

In the embodiment illustrated in Figs. 1 to 4 inclusive, there is illustrated a car having a floor 1 and lateral walls generally designated as 2 and 3 respectively and a roof portion generally designated by the reference character 4. The car as more clearly illustrated in Figs. 2 and 4 may, in order to facilitate an explanation of the same, be divided into three parts, a central corridor or passageway portion 5 and lateral or compartment portions generally designated by the reference characters 6 and 7 adjacent to the lateral walls 2 and 3 respectively.

The compartment portions 6 and 7 are substantially identical with one another except in reverse order, so that for the purpose of this description, it is believed that a detailed description of one portion will suffice for the two.

For the purpose of this description, it may be understood that we shall hereinafter compare this car to the standard sixteen-section sleeping car. The standard sixteen-section sleeping car in use today is ordinarily provided with thirty-two sleeping berths, a smoking room, lavatory and toilet at one end of the car for men, and a ladies' room, lavatory and toilet at the other end of the car for ladies. The present invention contemplates using a car standard as to the size in use heretofore, standard as to the space available, and standard as to the number of sleeping quarters provided, all as heretofore, but dispensing with the standard smoking room and men's lavatory, and ladies' room and ladies' lavatory, and providing, instead thereof, certain additions and improvements which will more clearly be described hereinafter.

Preferably the sleeping quarter portions 6 and 7 will be divided from the corridor 5 by the partitions generally designated by 8 and 9 respectively, composed of suitable sheet steel or the like.

The several upper and lower sleeping quarters or compartments are permanently and absolutely divided from one another by

suitable partitioning members such as sheet steel or the like as will hereinafter be described and independent and separate access to the lower and upper compartments is provided through the partition members 8 and 9 by doors or the like hereinafter described.

Before proceeding with the detail description and in order to facilitate a ready understanding of the arrangement of sleeping quarters attention is here called to the fact that the dominating outline of the upper and lower compartments is substantially T shaped, the upper compartment resembling an erect T with a lateral recess or alcove, and the lower compartment resembling an inverted T with a lateral recess or alcove.

It is also stated at this time that each portion 6 or 7 consists essentially of sixteen compartments, eight upper compartments 10 and eight lower compartments 11, with a toilet compartment 12 at each end making thirty-two compartments and four toilets to a car.

As will be seen from the lower left-hand portion of Fig. 1, a lower compartment 11 consists essentially of a main compartment area 13, a lateral auxiliary area or alcove 14, and an upwardly extending standing room area 15.

In the main compartment area 13 and in the wall member 2, or 3 of the car, as more clearly shown in Fig. 2, there is formed a recess or well 16 to afford a concealing space for a bed 17, adapted to be moved into such well during the day time or when out of use, and in turn when in use to be swung down into horizontal position as illustrated in Fig. 1. The bed 17 for the purpose of the present invention consists essentially of a lower wall member 18, a spring 19 and a mattress 20, the spring 19 and wall member 18 being preferably secured to one another at the ends and the wall member 18 connected to the downwardly projecting ears 21 and 22 which are pivotally connected to the bearing brackets 23 and 24 respectively extending outwardly from the wall members 2 or 3 of the car as illustrated in Fig. 2. The ears 21 and 22 as clearly illustrated in Fig. 2 are nearer one lateral edge of the bed so that the center of gravity of the bed will be disposed considerably beyond the pivotal connection with the bearing brackets 23 and 24, and consequently the bed when swung into horizontal position will maintain its open position.

Due to the length of the ears 21 and 22 and their position, spaced as they are from the lateral edge of the bed, it is obvious that the lower bed 17, when closed, will maintain its closed position.

At the end of the bed, there are formed the head and foot boards 25, 26, which are substantially identical in form and construction

and may, at will, constitute either the foot board or head board of the bed. In the present instance, the boards 25 and 26 function not only as ordinary foot boards and head boards but in addition thereto serve as means for retaining the bedding and bed clothes of the bed in place against displacement when the bed is swung into vertical or closed position. As will be seen from Fig. 4, in horizontal position the bed will be spaced from the inner wall of the well 16. This spacing of the bed aside from the element of ventilation, associated with the spaced and separate foot and head boards, contribute to the appearance and attractiveness of the bed, whereby a striking resemblance to the ordinary detached bed is obtained.

As shown in Fig. 4, it will also be seen that when the bed is in horizontal or open position, there will be provided a space of approximately eight or ten inches between the partition 8 or 9 and the outer lateral edge of the bed 17, thus affording adequate leg room for the passenger in the course of opening or closing the bed or when sitting thereon.

The space above the bed 17 as shown in Fig. 1 is divided practically into three parts, the ceiling of the end thirds being at a lower level than the middle third, the level of the end thirds defined by the partition portions 27, 28, as clearly shown on Fig. 1, when the bed is in horizontal or open position, affords adequate room for the passenger to sit erect on the bed without danger of striking his head against the partition portions 27, 28. The ceiling or partition portion 29 of the area 15 is disposed at a higher level than the partition portions 27, 28 and is intended to afford standing space for the passenger when the bed is either in horizontal or open position or in vertical or closed position. The alcove 14 associated with the main compartment portion 11 as aforesaid, in the present instance, cofunctions to material advantage. By providing this alcove 14, a storage space is afforded in which to receive a detached chair 30 during the night or at such time as the bed 17 is swung into horizontal or open position. Obviously when the bed is swung into vertical or closed position and it is desirable to use the chair it can readily be moved out of said storage space and moved around at will in the main compartment.

The features now to be described cofunction readily with the compartment 11 and alcove 14 described above to advantage.

The border of the well or recess 16 is equipped with a padded velvet edging 31. The edge of the partition portion of the bed 17 is provided with a similar padded velvet edging designated by the reference character 32. When the bed 17 is swung into vertical

or closed position, the velvet edgings 31 and 32 engage one another and cofunction to form a substantially dustproof closure, and in addition thereto the edging 32 affords a soft yieldable covering for the ordinarily sharp edge of the bed to protect the passenger when coming in contact with the edge of such bed. Due to the soft yieldable nature of this velvet covering, when the beds are being closed, engagements of these edgings with one another will practically muffle any sound caused when bringing the edges together and thus be conducive to a comparatively silent closure.

In order to permit the automatic collapse of the end boards 25, 26 when the bed 17 is closed, and in turn the automatic erection of the end boards 25, 26 when the bed is opened, a track or guide is provided at each end wall of the well 16, which cooperates with a stud or roller formed at one end of each end board. In Figs. 7 and 8, the track or guide, and cooperating roller are illustrated in detail. For the purpose of this description, the end board there illustrated is designated 25 although it is understood that the end board 26 will be similarly equipped. In Fig. 7 the wall member 33 there illustrated may be either of the end walls of the well 16. To this end wall 33 there is secured a U shaped guide or rail 34 which assumes an arc in a single plane when extending along the wall 33 and deflects from such wall 33 and extends toward the bed portion 17 in another arc. The end board 25 as illustrated is pivoted at 134 to the portion 35 of the bed 17, and preferably has a shoulder 36 adjacent to the portion 134 which has a pin 37 on which is mounted the roller 38 extending in and traveling in the guide or track 34. The guide 34 is closed at its outwardly extending end 39 in order to limit the outward movement of the bed 17. As will be seen from the foregoing, the guide 34 conforms to the movement of the roller 38 when passing into and out of the well 16 in the act of closing the bed 17 and therewith collapsing or erecting the end boards 25, 26. In other words, the deflected portion of the guide 34 which extends from the wall 33, conforms to the movement of the roller 38 when collapsing the end board 25, in the closing movement of the bed or vice versa, conforms to the movement of the roller when erecting the end board 25 when opening the bed 17, and the remaining portion of the guide 34 disposed adjacent to the wall 33 conforms to the path of movement of the roller 38 when the end boards are collapsed and in engagement with the bed 17, when the bed is either being moved into the well or out of the well 16. It will thus be seen that the occupant or attendant in order either to close the bed or open the same will not be required to attend to the end boards, bedding

or bed clothes, but that this will automatically be accomplished, the bedding and bed clothing after having been prepared initially remaining in their proper position on the bed 17 when the bed is closed, the end boards anchoring them in place, and in turn the end boards automatically moved into such collapsed or closed position and vice versa, the bedding and bed clothing remaining in their proper position on the bed 17 when the bed is opened, and in turn, the end boards automatically erected.

Above the well 16 and adjacent to its upper edge, there is provided a wash bowl. In the present instance, the attachment for this wash bowl consists of a funnel shaped member 39 hereinafter called a funnel, and having a downwardly extending outlet or drain pipe 40 and provided with a suitable faucet 41. To the front edge of the funnel 39 is pivoted the bowl 42. The bowl 42 is pivotally mounted so that the same may be swung out of operative position into the position shown in the left-hand lower sleeping compartment shown in Fig. 1 when the bed is in open position, and thus out of the way of the occupant of the bed.

In order to insure the absolute closing of the bed before the bowl 42 is lowered into horizontal or open position and thus protecting the bedding and bed clothes from being splashed with water and the like from the bowl, there is provided, in the present instance, a device which will securely anchor the bowl in closed or erect position, making it very difficult if at all possible for the average user ordinarily to open the bowl when the bed is in horizontal or open position. A suitable device for this purpose is illustrated in Figs. 5 and 6. The bowl as there illustrated is provided with two lateral arms 43 and 44 pivotally connected to the brackets 45 and 46 respectively fixed to the horizontal portion 47 of the wall. The brackets 45 and 46 support the shaft 48 provided with lateral latches 49 and 50 extending forwardly from the ends thereof to cooperate with the lugs 51 and 52 formed at the ends of the arms 43 and 44. Substantially in the middle of the shaft 48 there is provided a pawl 53 which is intended to cooperate with the projection 54 formed on the wall member 18 near the lateral edge of the bed. For normally and resiliently maintaining the pawl 53 in its lowered position, where it will maintain the shaft 48 to anchor the latches 49 and 50 in lowered position in engagement with the lugs 51 and 52 on the arms 43 and 44, thereby to anchor the bowl 42 in vertical or closed position, there is provided a coil spring 55 wound around the shaft 48 and suitably connected to the brackets 45 and 46 and the pawl 53. It is desired that this spring be of suitable rigidity and strength to insure the proper

anchoring of the bowl 42 in an erect or closed position and not permit the using of same by the average user except when properly manipulated by the cooperation of the pawl 53 with the projection 54 of the bed 17, that is when the bed 17 is swung into a vertical or completely closed position as illustrated in Fig. 6.

From the foregoing it will thus be seen that with a standard size car having sixteen sections, the so-called standard sixteen-section car, the lower sleeping quarter can readily be equipped as an individual private compartment having its individual private lavatory which compartment is private as well for day use as for night use, and that the same can readily be converted by the passenger without the aid of the car attendant either for sleeping purposes or for so-called day use, without in any way disorganizing the arrangement of the bedding or bed clothes which previously may have been, and are intended to have been, arranged ready for use by the passenger.

The features now to be described relate to the equipment and arrangement of the upper compartments of the improved car. With the present invention the upper compartment is made practically as attractive as the lower compartment just described and in some ways more attractive. The upper compartment with the present invention is also provided with standing room for the passenger both for day and night use, is also arranged readily to be converted into day use and equipped with a chair to be used for day use, is also readily converted either for night use or for day use without disorganizing the bedding or bed clothes which may have been, and are intended to have been, prepared in advance for the immediate use of the passenger without any additional attention by the attendant, and is also provided with a window and with a private lavatory.

The upper compartments 10 are substantially identical with one another, and in order to facilitate an understanding of the same, it is believed a description of one will suffice for all and for this purpose the upper compartment illustrated fully exposed in the middle of Fig. 1 will be described in detail. The upper compartment has a main area 56 which for the purpose of this description is assumed to be the area defined by the length of the bed 57, plus the distance from the ceiling 4 of the car, to the partitions 27 and 28. The upper compartment 10 also has an area 58 formed below the area 56 and disposed between the partitions 27 and 28 and extending downwardly therefrom, and also an area 59 disposed above the partition 29 and extending laterally from the area 56. The area 56 is bounded by the ceiling 4, car wall 2, vertical partition 8, vertical parti-

tion 60, area 59, vertical partition 61 extending between the horizontal partition 29 and the partition 28, partitions 27 and 28, and area 58.

The partitions 27 and 28 are bent with their ends inclined upwardly, to conform to the inclining ends of wall member 62 of the bed 57 when the same is in horizontal or open position, advantage being taken of this inclination to give additional space to the adjacent lower compartments 11, 11. The area 58 is disposed directly above the area 14 whereby the lowest portion of space for the upper compartment is disposed relative to the lower compartment, and relative to the available space in the car where the least need for space is present in the lower compartment. This area 58 is provided to form a standing room for the occupant of the upper compartment either for day use, or for night use when preparing for bed or for moving the bed 57 down into horizontal or open position. This area 58 is also intended for use as a storage space for the chair 63 when the same is not in use, and the bed 57 is disposed in horizontal or open position. The chair 63 has no rear legs and as clearly illustrated in the compartment 10 at the extreme left of Fig. 1, the chair has a seat portion 64, front leg member 65 and back 66 and arms 67, and when in use is supported either on the partition 27 or the partition 28 in which position the leg member 65 cooperates with the partition members 27 or 28 properly to support the chair 63 in upright position.

The partition 29 of the area 59 may serve as a shelf or support for hand luggage and the like.

The bed 57 of the upper compartment is substantially identical with the bed 17 of the lower compartment and is also intended, when not in use, to be moved into a well or recess, in the present instance, the well or recess 68. The well 68 is substantially of the same height as the well 16 of the lower compartment, but in order to position the bed 57, when in open position at the level of the partitions 27 and 28, it has been found desirable to position the bed 57 when in open position at a slightly higher level relative to the well 68 than the level of the bed 17 in open position is disposed relative to its well 16. To this end, the lower wall 62 of the bed 57 is provided with downwardly extending lugs 69 disposed at a greater distance from the inner lateral edge of the bed 57 than the distance that the lugs 21 and 22 are disposed from the inner lateral edge of the bed 17. These lugs 69 are pivotally connected by pins 86 to the downwardly extending side walls 70 and 71 of the area 58. The well 68 is provided with a velvet edging 72 similar to the edging 31 of the well 16 to cooperate with the edging 73 of the bed 57

similar to the edging 32 of the bed 17. The bed 57 is provided with end boards 74 and 75 similar to the end boards 25 and 26 of the bed 17 and are also provided with rollers 38 similar to those illustrated in Figs. 7 and 8 to cooperate with guides 34 formed at the end walls of the well 68. Above the well 68, the compartment 10 is provided with a window 76 below which there is provided a lavatory similar to the lavatory in the lower compartment consisting of a funnel 77 and bowl 78 cooperating in a manner similar to the manner of cooperation of the funnel 39 and bowl 42 and having a similar anchoring means to those illustrated in Figs. 5 and 6.

In order to insure securely anchoring the bed 57 either in open position, special securing means is provided. This securing means is illustrated in detail in Figs. 9, 10 and 11. At the outer lateral edge of the bed 57 when the bed is in open position there are formed two handles 79 and 80 which as shown in Fig. 9 are fixed to the rod 81 fulcrumed in the wall 62. At the free end of the extension 82 of the handle 79 there is pivotally connected the rod 83 having at its free end an enlargement 84 provided with a slot 85 to receive the pivot pin 86 by means of which slot 85 and pin 86, the enlargement and rod 83 are controlled in their slidable movement when actuated by the handles 79 and 80. The enlargement 84 is provided with a finger 87 to cooperate with the recesses 88 and 89 formed in the boss 90 on the partition 70 adjacent to the lug 69. The recesses 88 and 89 are spaced 90 degrees apart. A spring 91 is provided connecting the enlargement 84 with the wall 62 of the bed for resiliently and normally exercising a tension on the enlargement 84 to bring the finger 87 into engagement with the boss 90, and if in alignment with the recess 88 or 89, to bring the finger into either recess thereby locking the bed either in a closed or open position, the recess cooperating with the finger 87 functioning to anchor or lock the bed in open position and the recess 89 cooperating with the finger 87 to lock the bed 57 in vertical or closed position. Obviously if desired the beds 17 of the lower compartments may be provided with securing means for positively securing the beds in open or closed position similar to the positive securing means just described with respect to the beds 57.

To facilitate access to the upper compartment, the portion of the partitions 8 or 9 below area 58 is provided with a step formation 92, see Figs. 1 and 2 which consists of a receding wall portion 93 and a ledge 94 beneath the same.

In the present instance, as illustrated, the lower and upper compartments are provided with foldable doors, each consisting of four

leaves 95, 96, 97 and 98, the leaves 95 and 96 being pivoted to one another and either to the partition 8 or the partition 9 and the leaves 97 and 98 being pivoted to one another and either to the partition 8 or the partition 9 and having a suitable locking connection with one another where they abut. These foldable doors fold inwardly, as clearly appears from Figs. 3 and 4, for which purpose the adjacent partitions are suitably recessed and provide clearances for the folding leaves when moved inwardly.

From the foregoing it will be seen that a standard sixteen-section sleeping car may readily be equipped with thirty-two separate and individual compartments and with four toilets instead of two toilets, consisting of sixteen upper compartments and sixteen lower compartments, each compartment provided with an independent and private lavatory, each provided with standing room for the occupant when the compartment is arranged for day use or for night use, each provided with a window, and each provided with a movable chair, without materially changing the body dimensions of the car.

From the foregoing it will also be seen that the beds of the several compartments, by means of their end boards and automatic collapsing devices can be repeatedly opened or closed during the day or night by the occupant of the compartment without requiring the services of an attendant and without dismantling or disorganizing the bedding or bed clothes so as to require the same to be rearranged.

From the foregoing it will also be seen that advantage is taken to the utmost of the available space in the car in a vertical direction, as well as in a horizontal direction so as to provide standing room in each compartment, and that to this end in both the upper and lower compartments, the space occupied by the chairs during the day time or for day use is occupied by the beds during the night or for night use and vice versa.

The main space between the partitions 8 and 9 forming the passageway or corridor 5 is ordinarily about twenty-six inches wide. For ordinary purposes this width is sufficient to permit the passage therethrough of two persons. In order that stout persons or persons carrying luggage may conveniently pass each other, in the present instance, the partitions are provided with a plurality of oppositely disposed recesses 99 and 100 which are located at intervals throughout the passageway, preferably as illustrated in Fig. 4, at the ends of the lower compartments opposite to which the alcoves 14 are located.

In the modification illustrated in Figs. 12, 13 and 14 there is shown another form of the present invention having upper and lower compartments equipped with disap-

pearing beds which are disposed longitudinally of the car and staggered in relation to one another, with only one end of a disappearing bed in an upper compartment overlapping one end of a disappearing bed in a lower compartment. Furthermore in this modification each compartment is provided with an individual toilet. The toilets of the upper and lower compartments are staggered in relation to one another as illustrated in Fig. 13. Still furthermore the compartments as illustrated in Fig. 14 are arranged in longitudinal rows to either side of a central corridor with which the compartments individually and independently communicate.

It is understood of course that the modification illustrated in Figs. 12, 13 and 14 merely illustrate a modification diagrammatically, and that if desired this modification may also be equipped with windows and wash bowls similar to the windows and wash bowls of the modification illustrated in Fig. 1.

In the modification illustrated in Figs. 12, 13 and 14, the car there illustrated has a floor 101, two side walls 102 and 103 and a roof 104. The interior of the car is divided by the partitions 105 and 106 into a central corridor or passageway 107, and two rows of compartments, one row to either side of the passageway 107, and each row having a series of upper compartments 108 and a series of lower compartments 109. The compartments 108 and 109 are provided with permanent partitions permanently separating them from one another providing permanent compartments and each upper compartment is preferably provided with a foldable door 110 illustrated in Fig. 12 and each lower compartment with a foldable door 111 by which the compartments have direct communication with the passageway 107. From the door 110 the lower edge of which is disposed at a level removed from the floor, step formations may be provided such as illustrated in Fig. 1 to afford convenient access to the door. Each of the upper compartments 108 may for convenience of description be divided into a leg room area or chair storage area 112, a diminished baggage area 113, a toilet containing area 114 and a main area 115. The length of the main compartment in the present instance is determined by the length of the disappearing bed 116 plus the length of the toilet containing area 114. The length of the luggage area 113 in the present instance is determined by the width of the door 111 and disposed above the same. The area 112 is similar to the chair storage area 58 in the modification illustrated in Fig. 1, and is also intended to serve as leg room for the occupant of the upper compartment and as a chair storage area for the chair 117 when the bed 116 is swung out into horizontal or open position. To either side of the storage area 112, the partition members 118 and 119 form supports for the seats 120 of the chairs 117, such chairs 117 in the present instance also being substantially identical with the chairs 63 illustrated in Fig. 1, each having a back rest 121, a seat 120 and a front leg member 122, but no rear leg. The bed 116 in the modification illustrated in Fig. 12 may also be swung into a well formed in the side wall 102 or 103 of the car, similar to the wells 68 or 16. To one side of the partition 119 there is formed the toilet area 114 in which is disposed a toilet bowl 123.

Below the area 113 and spaced therefrom by the partition 124 there is disposed a head room area 125 for the lower compartment 109. The lower compartment 109 as below the head room area 125 a main area 126 the length of which is determined by the length of the disappearing bed 127 disposed in the lower compartment. At one end of the compartment 109 and below the storage area 112 of the upper compartment there is formed the chair storage area 128 which is the width of the lower compartment 109, between which area 128 and the bed 127 there is disposed a toilet containing area 129 positioned below the partition 119 in which there is positioned a toilet 130. To one side of the toilet area 129 and below the toilet area 114 there is formed the chair storage area 131, Fig. 14. In the modification illustrated in Fig. 12, when the bed 127 is disposed in vertical or closed position, an ordinary chair as for instance the chair 132 may be moved into the area formerly occupied by the bed 127 as illustrated to the left end of Fig. 12. From the foregoing it will be seen that in this modification the disappearing bed 116 of an upper compartment has only one end thereof overlapping one end of a disappearing bed 127 in a lower compartment. It will also be seen that each compartment is provided with a toilet, the toilets of the upper and lower compartments being staggered in relation to one another as clearly illustrated in Fig. 14.

It is obvious that with the modification illustrated in Fig. 12 the end boards 133 and 135 of each bed may also be automatically closed when the bed is closed and automatically erected when the bed is opened as in the case of the disappearing beds illustrated in Fig. 1.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention set forth in the appended claims.

I claim:

1. In a sleeping car, the combination with a center passage-way extending the full length of the car, of a plurality of perma-

nently independent upper and lower compartments both extending longitudinally of the car and communicating with said passage-way.

2. In a sleeping car, the combination with a center passage-way extending the full length of the car, of a plurality of permanently independent upper and lower compartments both extending longitudinally of the car to either side of said center passage-way and communicating with said passage-way.

3. In a sleeping car, the combination with a center passage-way, permanently independent upper and lower compartments extending longitudinally of the car in staggered relation to one another, each upper compartment overlapping a lower compartment and separately and individually communicating with said passage-way.

4. In a sleeping car, the combination with a center corridor extending the full length of the car, of permanently independent upper and lower compartments both extending longitudinally of the car, said upper and lower compartments in communication with said corridor.

5. In a sleeping car, the combination with a one-level straight corridor extending the full length of the car, of permanently independent upper and lower compartments communicating with said corridor, and beds provided in both said compartments extending longitudinally of the car.

6. In a sleeping car, the combination with a straight corridor extending the full length of the car, of upper and lower compartments permanently independent of one another and separately communicating with said corridor, and a bed provided in each compartment extending longitudinally of the car.

7. In a sleeping car, the combination with a corridor extending the full length of the car, of upper and lower compartments permanently independent of one another and communicating with said corridor, a bed in each of said compartments, all of the beds extending longitudinally of the car, and means for mounting said beds in said compartments to permit removing them when the compartments are intended for day use.

8. In a car, the combination with a corridor, of upper and lower compartments permanently independent of one another and extending longitudinally of the car, the upper and lower compartments being in staggered relation to one another, with ends of the upper compartments overlapping ends of the lower compartments.

9. In a car, the combination with a corridor, of upper and lower compartments permanently independent of one another and separately communicating with the corridor, and a bed provided in each of said compartments and extending longitudinally of said

car, the compartments being staggered in relation to one another with the ends of the upper compartments overlapping the ends of the lower compartments.

10. In a car, the combination with a corridor, of upper and lower compartments permanently independent of one another and communicating with said corridor, and a disappearing bed provided in each compartment to permit the use of said compartments for day use at will.

11. In a car, the combination with a corridor, of upper and lower compartments communicating with said corridor, and disappearing beds in said compartments to permit the use of said compartments for day use at will.

12. In a car, the combination with a center corridor, of lower and upper compartments communicating with said corridor, and a disappearing bed provided in each compartment to permit the compartment to be interchangeably converted into a sleeping compartment or sitting room.

13. In a car, the combination with a corridor, of upper and lower compartments extending longitudinally of the car and independently communicating with said corridor, and a disappearing bed provided in each compartment to permit the compartment to be interchangeably converted into a sleeping compartment or sitting room.

14. In a car, the combination with a center corridor, of lower and upper compartments longitudinally extending on either side of said corridor and independently communicating with said corridor, and a disappearing bed in each compartment to permit the compartment to be interchangeably converted into a sleeping compartment or sitting room.

15. In a car, the combination with permanently independent upper and lower compartments, of beds in said compartments, the beds extending longitudinally of the car with the ends of the beds in the upper compartments overlapping the ends of the beds in the lower compartments.

16. In a car, the combination with two rows of upper and lower compartments permanently independent of one another, of beds extending longitudinally of the car in said upper and lower compartments, there being standing floor space adjacent to said beds, the ends of the beds in the upper compartments in a row being spaced from one another to afford permanent standing room for the lower compartments when the occupant stands on the floor space in the lower compartments.

17. In a car, the combination with two rows of upper and lower compartments permanently independent of one another, of beds in said compartments extending longitudinally of the car in said upper and lower

compartments, there being standing floor space adjacent to said beds, the ends of the beds in the upper compartments in a row being spaced from one another to afford standing room on standing floor space for the lower compartments, and the beds of the lower compartments being spaced apart to afford standing room on standing floor space for the upper compartments.

18. In a car, the combination with permanently independent upper and lower compartments extending longitudinally of the car, the ends of the beds of the lower compartments in a row being spaced apart to afford standing room for the upper compartments.

19. In a car, the combination with permanently independent upper and lower compartments, of a bed in each of said compartments extending longitudinally of the car, the ends of the beds of the upper compartments in a row being spaced apart to afford standing room for the lower compartments, and the ends of the beds of the lower compartments being spaced apart to afford standing room for the upper compartments.

20. In a car, the combination with partitions forming upper and lower compartments, of a bed in each compartment extending longitudinally of the car, said partitions forming sitting areas in the compartments the sitting areas of the upper compartments being spaced apart to form standing room for the lower compartments, and the sitting areas of the lower compartments being spaced apart to form standing room for the upper compartments.

21. In a car, the combination with partitions forming upper and lower compartments, of a bed in each compartment extending longitudinally of the car, the ends of the beds in the upper compartments overlapping the ends of the beds in the lower compartments, portions of said partitions extending between the overlapping portions of the beds and forming sitting areas in the compartments.

22. In a car, the combination with partitions forming upper and lower compartments, of a bed in each compartment extending longitudinally of the car, the ends of the beds in the upper compartments overlapping the ends of the beds in the lower compartments, portions of said partitions extending between the overlapping portions of the beds and forming sitting areas in the compartments, the sitting areas of the upper compartments being spaced apart to form standing room for the lower compartments and the sitting areas of the lower compartments being spaced apart to form standing room for the upper compartments.

23. In a car, the combination with partitions forming upper and lower compartments, of a bed in each compartment extend-

ing longitudinally of the car, the ends of the beds in the upper compartments overlapping the ends of the beds in the lower compartments, portions of said partitions extending between the overlapping portions of the beds and forming sitting areas in the compartments, the sitting areas of the upper and lower compartments being disposed one above the other.

24. In a car, the combination with partitions forming upper and lower compartments, of a bed in each compartment extending longitudinally of the car, portions of said partitions forming sitting areas for the lower compartments said sitting areas being spaced apart to form storage areas for chairs in the upper and lower compartments.

25. In a car, the combination with upper and lower compartments, of beds in said compartments extending longitudinally of the car, the adjacent ends of each two adjacent beds in the lower compartments being spaced apart to form a storage space for a chair in communication with one of said lower compartments.

26. In a car, the combination with upper and lower compartments, of beds in said compartments extending longitudinally of the car, the ends of adjacent beds in the upper compartments being spaced apart to afford standing room for the lower compartments, and the ends of adjacent beds in the lower compartments being spaced apart to form storage areas for chairs.

27. In a car, the combination with upper and lower compartments, of disappearing beds disposed in said compartments and extending longitudinally thereof to permit the compartments to be interchangeably converted into sleeping compartments and sitting rooms, the ends of the beds in the lower compartments being spaced apart to form storage spaces for chairs, a storage space being thus provided for each lower compartment to receive a chair when the bed has been opened for night use.

28. In a car, the combination with partitions forming upper and lower compartments, of beds disposed in said compartments extending longitudinally of the car, portions of the partitions forming sitting areas for the compartments, the sitting areas of the lower compartments being spaced apart to form chair storage areas for the lower compartments and combined standing room areas and chair storage areas for the upper compartments, and the sitting areas of the upper compartments being spaced apart to form standing room areas for the lower compartments.

29. In a car, the combination with partitions forming upper and lower compartments, of beds disposed in said compartments extending longitudinally of the car, portions of the partitions forming sitting

areas for the compartments, the sitting areas of the lower compartments being spaced apart to form chair storage areas for the lower compartments and combined standing room areas and chair storage areas for the upper compartments, the sitting areas of the upper compartments being spaced apart to form standing room areas for the lower compartments, the chair storage areas serving to receive the chairs when the beds are in open position.

30. In a car, the combination with partitions forming upper and lower compartments, portions of the partitions forming sitting areas for the compartments, said portions of the partitions being spaced apart alternately to form standing room for the lower compartments and to form chair storage areas for the upper compartments, and chairs for the upper compartments supported on said portions when in use as chairs.

31. In a car, the combination with partitions forming upper and lower compartments, of chairs having seats and front legs, said partitions having portions thereof formed into supports in the upper compartments for said seats.

32. In a car, the combination with partitions forming upper and lower compartments, of chairs having seats and front legs, said partitions having portions thereof forming supports for the seats in the upper compartments, said portions being separated to form chair storage areas when the chairs are not in use.

33. In a standard size car, the combination with a center passage-way, of sixteen upper and lower compartments on each side of said passage-way, permanently independent of one another and independently communicating with such passage-way, and four toilets, one of said toilets at each end of a row of compartments.

34. In a car, the combination with a center passage-way, of sixteen upper and lower compartments on each side of said passage-way communicating directly with such passage-way, an individual lavatory in each compartment, and four toilets, one of said toilets at each end of each row of compartments.

35. In a car, the combination with a plurality of upper and lower compartments, of disappearing beds in said compartments to permit said compartments to be interchangeably converted into sitting rooms or sleeping quarters, pivotal means for pivotally connecting said beds in said compartments, end boards on said beds, and guides cooperating with said end boards automatically to erect said end boards when the beds are swung into horizontal or open position and automatically to fold down said end boards

when the beds are swung into vertical or closed position.

36. In a car, the combination with a compartment having a wall well, of supports adjacent to said well, a disappearing bed pivotally connected to said supports, guide rails at the end walls of said well, end boards pivotally connected to the ends of the bed, and rollers pivotally connected to said end boards and traveling in said guide rails whereby automatically to erect the end boards when the bed is swung into horizontal or open position, and whereby automatically to fold down the end boards when the beds are swung into a vertical or closed position.

37. In a car, the combination with a compartment having a bed therein, of pivotal means for mounting the bed and permitting the same to be folded up into closed position, and a wash bowl pivotally mounted in said compartment above said bed to be swung up into closed position when the bed is swung down into horizontal or open position.

38. In a car, the combination with a compartment having a bed therein, of pivotal means for mounting the bed and permitting the same to be folded up into closed position, a wash bowl pivotally mounted in said compartment above said bed to be swung up into closed position when the bed is swung down into horizontal or open position, and a window disposed above said wash bowl.

39. In a car, the combination with a compartment having a bed therein, of pivotal means for mounting the bed and permitting the same to be folded up into closed position, a wash bowl pivotally mounted in said compartment above said bed to be swung up into closed position when the bed is swung down into horizontal or open position, lugs on said wash bowl, latches for cooperating with said lugs normally to anchor the bowl in closed position when the bed is in open position, a pawl associated with said latches, and a projection on said bed for actuating said pawl when the bed is swung into closed position whereby the lugs will be released from engagement with said latches and the bowl be free to be swung into open position.

40. In a car, the combination with a compartment having a bed therein, of pivotal means for mounting the bed and permitting the same to be folded up into closed position, a wash bowl pivotally mounted in said compartment above said bed to be swung up into closed position when the bed is swung down into horizontal or open position, lugs on said wash bowl, latches for cooperating with said lugs normally to anchor the bowl in closed position when the bed is in open position, a pawl associated with said latches, a projection whereby the lugs will be released

from engagement with said latches and the bowl be free to be swung into open position, and tension means for normally straining the pawl and latches in a lug anchoring position.

41. In a car, the combination with a compartment having a bed, of means for pivotally mounting said bed to permit the same to be swung into closed position, a funnel having a drain pipe, a faucet extending from said funnel, a wash bowl pivotally connected to said funnel above said bed and adapted to be swung into engagement with said funnel in closed position, means for normally anchoring said wash bowl in closed position, and a projection on said bed cooperating with said anchoring means when said bed is swung into closed position to release said wash bowl and permit the same to be swung into open position.

42. In a car, the combination with a compartment having a bed receiving recess or well, of a disappearing bed pivotally mounted to be swung out of use into said well, the border of said well and the perimeter of said bed substantially conforming to one another, and a flexible edging on the border of said well and on the perimeter of said bed to engage one another when the bed is swung into said well to form a dust-proof closure.

43. In a car, the combination with a plurality of upper and lower berths, of wash bowls disposed above the upper berths, and means for pivotally mounting the upper berths when out of use to swing downwardly against the wall of the car clearing the wash bowls.

44. In a car, the combination with a plurality of upper and lower berths, of means for pivotally mounting the berths to swing against the wall of the car when out of use, said pivotal means cooperating to dispose the berths when closed with the sides of the upper berths adjacent to the sides of the lower berths.

45. In a car, the combination of upper and lower compartments, there being usable areas and storage areas in said compartments, and beds and chairs interchangeably occupying said usable areas, the beds occupying said usable areas and the chairs occupying said storage areas during the night, and the chairs occupying said usable areas during the day.

46. In a car, the combination with upper and lower compartments, of beds, means for pivotally connecting the beds adjacent to the walls of the compartments and spacing the same from the walls of the compartments.

47. In a car, the combination with upper and lower compartments, of disappearing beds, there being wells in said compartments to receive said beds when closed, said wells being in staggered relation to one another with the wells in the upper compartments overlapping the wells in the lower compartments, said wells being spaced apart, and there being windows disposed in the spaces formed between the wells.

48. In a car, the combination with a compartment having a bed therein, of pivotal means for mounting the bed and permitting the same to be folded up into closed position, a wash bowl pivotally mounted in said compartment above said bed to be swung into closed position when the bed is swung down into horizontal or open position, means for anchoring the wash bowl in closed position and means cooperating with said bed to actuate said anchoring means to release the wash bowl when the bed is swung into closed position.

49. In a car, the combination with a compartment having a disappearing bed, of means for pivotally mounting said bed to permit the same to be swung into closed position, and a wash bowl pivotally mounted in said compartment above said bed to be swung into discharging position inclined to discharge above and away from the bed.

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