June 9, 1953 R. W. SAMPSON ET AL 2,641,201

BED AND SEAT STRUCTURE

Filed May 27, 1947 3 Sheets-Sheet 1

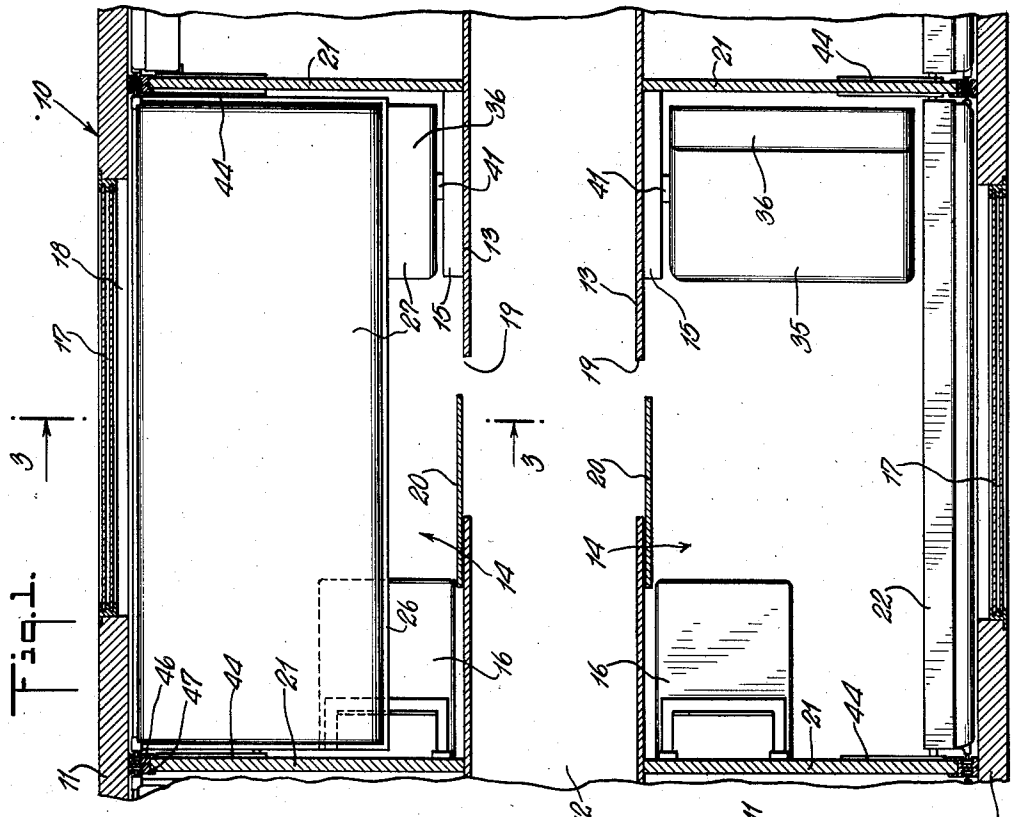

Fig. 1.

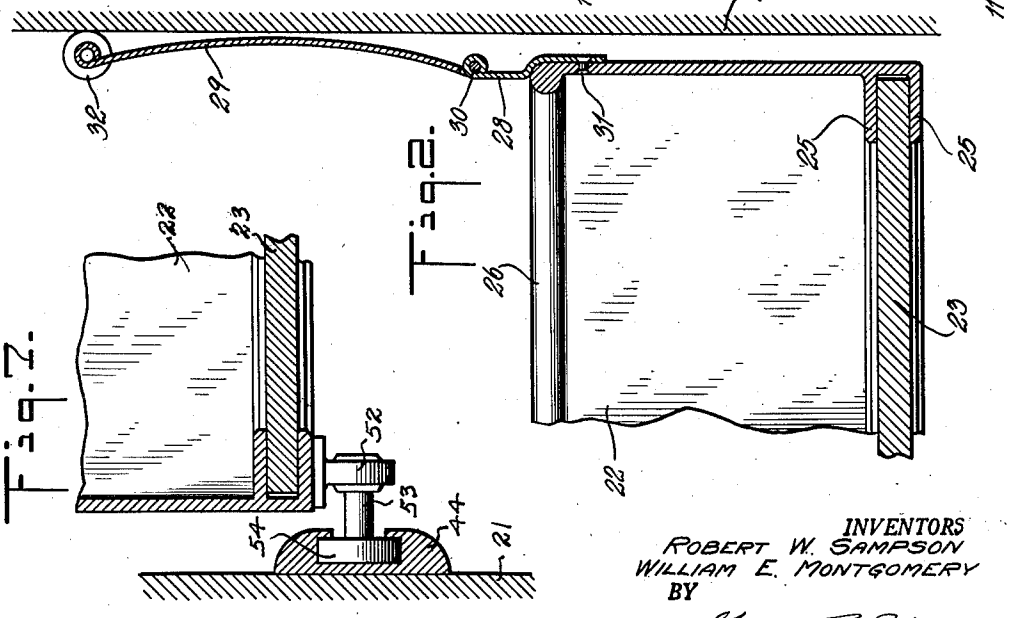

Fig. 2.

Fig. 7.

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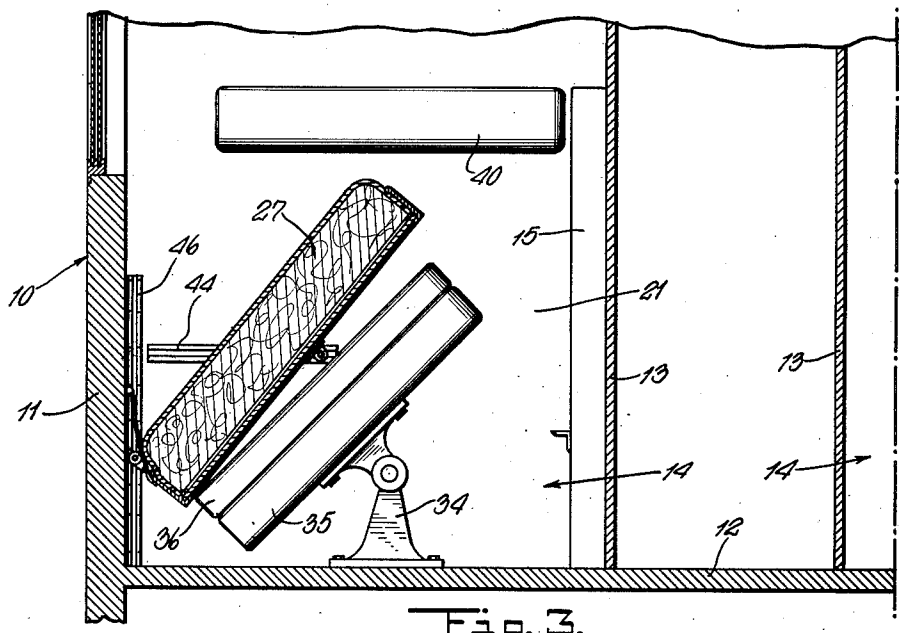

Fig. 3.

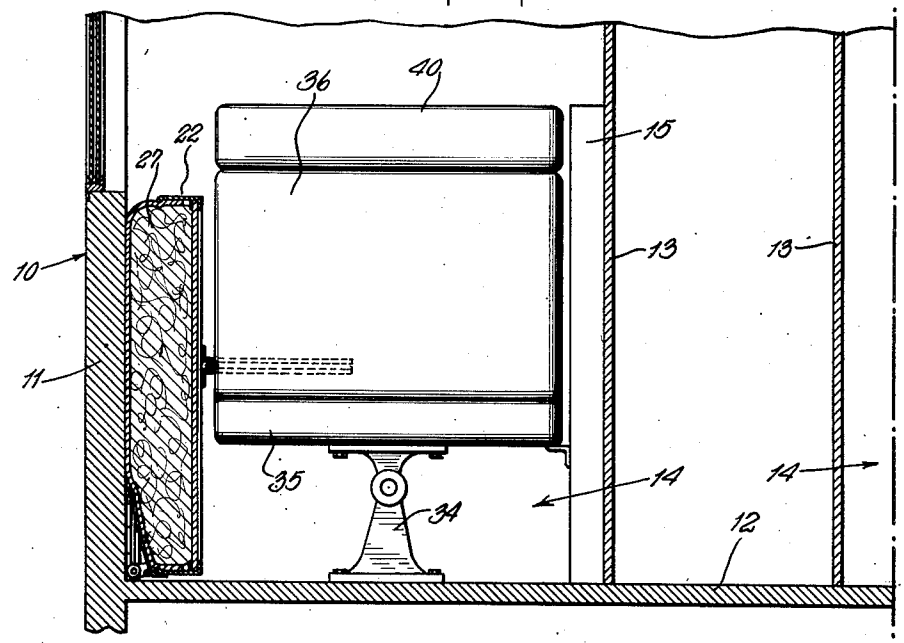

Fig. 4.

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Filed May 27, 1947 3 Sheets-Sheet 3

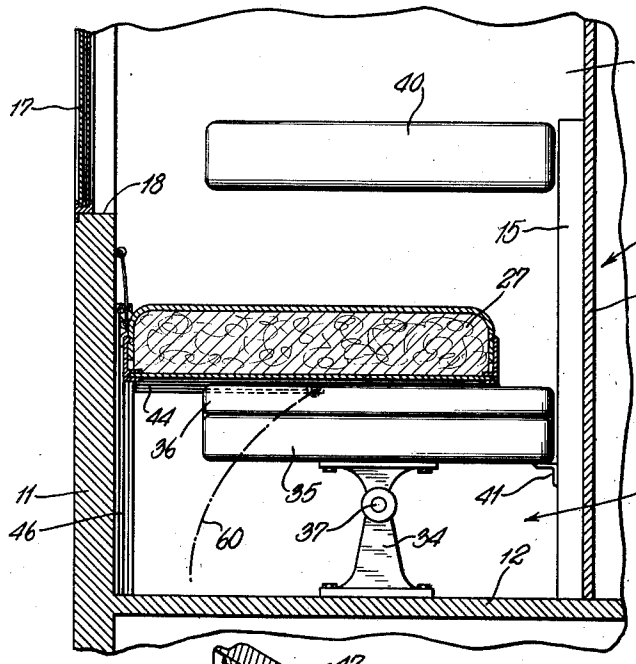

Fig. 5.

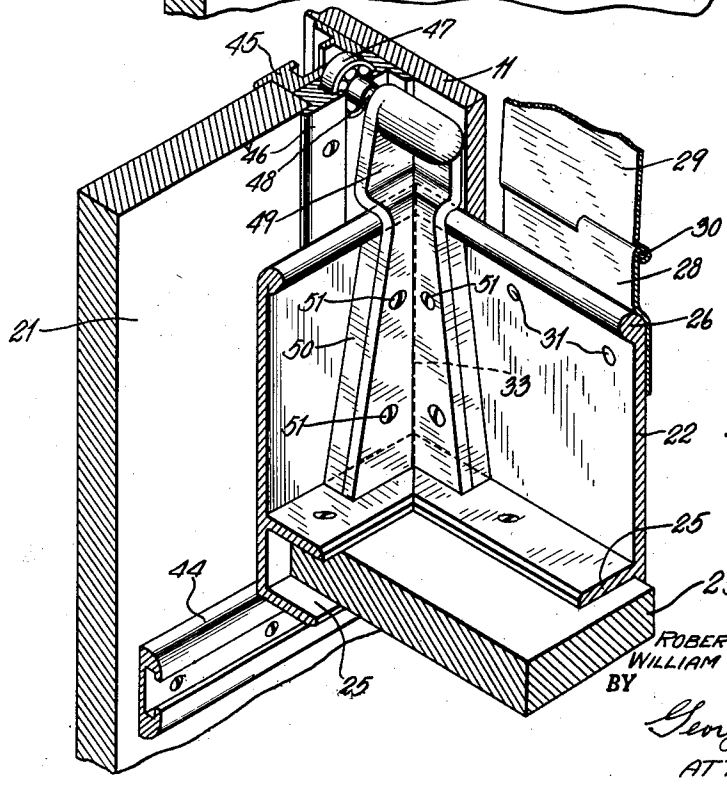

Fig. 6.

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Patented June 9, 1953

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BED AND SEAT STRUCTURE

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Application May 27, 1947, Serial No. 750,788

4 Claims. (Cl. 105—315)

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This invention relates to railway cars and more particularly to bed and chair arrangements for private rooms in sleeping cars.

An object of the invention is to provide a mounting for a sleeping car bed structure in a single occupancy room whereby the bed structure will follow an arcuate path to clear an anchored chair structure when moved edgewise between a prone position and a side storage position.

Another object of the invention is to mount a bed structure for sleeping car rooms so that in stored position the upper side will provide an arm rest for the occupant while seated in an adjacent chair structure.

A further object of the invention is to provide an arrangement in a sleeping car whereby a fixed head rest is engaged by the hinged back of a side tiltable chair structure to prevent the structure from tilting when in upright position.

Another object of the invention is to provide a railway car single occupancy room with a bed structure that can be shifted between stored and prone positions by the occupant while standing entirely within the room.

Still another object of the invention is to provide a bed and chair arrangement for a single occupancy railway car room in which the chair is tilted sidewise in order that it may be cleared by the bed when being shifted in an arcuate path between stored and prone positions.

These and other objects of the invention will be apparent to those skilled in the art from a study of the following description and accompanying drawings, in which:

Figure 1 is a horizontal sectional view of a portion of a railway sleeping car.

Figure 2 is a fragmentary view of the bed and adjacent end wall with the bed in prone position.

Figure 3 is a vertical sectional view through one of the rooms taken on line 3—3 of Figure 1 showing the bed and chair structures in an intermediate position of adjustment.

Figure 4 is a view similar to Figure 3 showing the bed in stored position and the chair in position for occupancy.

Figure 5 is a view similar to Figures 3 and 4 showing the bed in prone position.

Figure 6 is a fragmentary perspective view of the bed structure and associated room walls on which it is mounted.

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Figure 7 is a fragmentary sectional view of the bed and end mounting means.

The numeral 10 designates a conventional sleeping car having outer side walls 11, flooring 12 and longitudinally extending spaced panels 13 forming a center aisle therebetween. The longitudinal spaces between the panels and side walls are divided into rooms or compartments 14 by transverse panels or walls 21. Each room has a clothes closet 15 at one end along the aisle panel and a combined toilet and wash basin structure 16 adjacent the aisle panel at the other end. The outer walls are provided with windows 17, one for each room, with which is associated the usual lower sill 18. The panels have openings 19 between the clothes closets and toilet structures adapted to be closed by sliding doors 20.

The rooms are preferably of the single occupancy type and are only large enough to accommodate the essential equipment for one passenger. Considerable difficulty has been encountered in providing standard bed and chair structures for such rooms that can be arranged and mounted so the bed will clear the fixed chair structure while being moved between stored and prone positions. The present invention contemplates bed and chair structures that are arranged and mounted so that the occupant of a room will have maximum space and comfort while the bed is in stored position and can move the bed between stored and prone positions while standing entirely within the room.

The bed pan is rectangular and comprises a wall 22 and a bottom plate 23. The pan wall is preferably formed of a sheet metal strip having spaced inwardly extending bottom flanges 25 between which the edges of the bottom plate 23 is retained. This strip is folded around the bottom plate and the ends thereof are welded together as at 33 or otherwise secured together. The upper edge of the wall strip is formed with an inwardly extending bead 26 which serves to retain a mattress 27 within the pan. A side board is comprised of sheet metal sections 28 and 29 secured together by piano hinge 30. Section 28 is secured to a side wall of the pan by rivets 31 and section 29 carries rollers 32. Section 29 is normally extended from section 28 by suitable means such as a spring (not shown).

The side board serves as a shield for bed clothes that may droop over the side of the pan and is wedged into a clamping engagement therewith by the roller engagement with the car side wall when the bed structure is in stored position.

The bed pan is stored edgewise adjacent the outer wall of the room and it is substantially the same length as the interior of the room and of substantially the same width as the space between the clothes closet and the outer wall.

The chair structure is arranged in the space between the clothes closet and the space occupied by the bed structure when in stored position, such width being adequate to seat two average sized passengers. The chair structure comprises pedestal 34 fixed to the floor, seat 35 and back 36 hinged to the seat for fore and aft folding. The seat is mounted on a pivot pin 37 extending longitudinally of the room and secured to the top of the pedestal. While the back can be folded down on the seat when in position for occupancy there is insufficient clearance for moving the bed between stored and prone positions, but by pivoting the seat so that it can tilt down sidewise toward the outer wall sufficient clearance for movement of the bed between prone and stored positions is provided.

A head rest 40 is fixed to the room end panel 21 adjacent the chair and the chair back is arranged to lie directly beneath the head rest when in upright position. The head rest will act as a stop for the top of the chair back when in upright position thereunder to prevent side tilting of the chair. The clothes closet has brackets 41 projecting therefrom to serve as supports for the chair seat when in occupant receiving position.

In order to clear the chair when it is tilted sidewise, the bed structure is mounted to swing in an arcuate path. Guide means is associated with the bed pan and the room end walls for this purpose. Guideways 44 extend horizontally of the room and are secured to the inner surfaces of the room end panels. The room end panels 21 terminate short of the car side walls and are clamped between sections 45 and 46 of vertical guideways secured to the adjacent car side wall. These vertical guideways while fixed to the car side wall cooperate with the end panels to form therewith the end walls of the room. Rollers 47 are rotatably mounted on shafts 48 projecting beyond the ends of and adjacent one side of the bed pan and are carried by ends of corner brackets 49 extending above the top of the bed pan. Spacers 50 are welded in the outermost corners of the bed pan and brackets 49 are detachably secured thereto by screws 51. Brackets 52 are secured to the underside of the bed pan and carry shafts 53 projecting beyond the ends of the bed pan and carrying rollers 54. These shafts 53 are arranged to one side of the longitudinal center line of the bed pan so that gravity will aid the occupant in moving the bed structure edgewise to stored position.

The bed structure is supported by the rollers 54 in the horizontal guideways 44 when prone, and by the rollers 47 resting against the terminals of the slots at the bottom portions of the vertical guideways when in edgewise stored position. In moving between stored and prone positions the underside of the bed structure follows approximately an arcuate path as indicated by line 60. As the bed structure moves between prone and stored positions, it will contact the tilted chair structure back and will carry the chair structure therewith but as the chair structure is pivotally mounted it will not interfere with movement of the bed structure.

The invention may be modified in various respects as will occur to those skilled in the art and the exclusive use of all modifications as come within the scope of the appended claims is contemplated.

What is claimed is:

1. In a sleeping car having a room with a side wall and transversely extending end walls, a bed substantially coextensive longitudinally with the room, vertical guideways carried by the side walls forming a part of the end walls, horizontal guideways carried by the end walls, and means fixed to project from the ends of the bed and engaging in the guideways whereby the bed will be supported and guided sidewise in an arcuate path between a prone horizontal position and a storage position resting on one side adjacent the side wall.

2. In a sleeping car, a room having an aisle wall, an outside wall, end walls and a floor, a bed pan substantially the same length as and of slightly less width than the room movably mounted on the end walls for arcuate movement between a horizontal prone position and a vertical stored position with one side resting adjacent the floor near the outside wall, and a seat structure permanently mounted in the room having a seat pivotally mounted for tilting on an axis longitudinally of the room and a back foldable on the seat when shifting the position of the pan, said chair structure being located at one end of the room between the bed pan in its stored position and the aisle wall, the bottom of the bed pan engaging the folded back of the tilting seat structure and swinging the seat and back therewith when moved to horizontal position thereby lowering the path of bed pan movement required to clear the chair structure.

3. In a railway sleeping car, a room defined by a car side wall, an aisle wall parallel with the side wall and spaced transverse walls interconnecting the side and aisle walls, a rigid fixed-length bed in said room of substantially the same length as the room, similar oppositely disposed horizontally extending guideways in the room fixed to the transverse walls, similar oppositely disposed vertically extending guideways in the room fixed to the transverse walls adjacent the side wall and extending from adjacent the floor to a point above the horizontally extending guideways, rollers mounted at the ends of and adjacent one side edge of the bed, said rollers being mounted in the vertical guideways, and rollers mounted at the ends of and slightly off of the transverse center line of the bed, said last mentioned rollers being mounted in the horizontal guideways, said bed being supported and guided sidewise in an arcuate path by said rollers and guideways while being moved between a stored position with one side adjacent the floor and side walls and a horizontal position for passenger occupancy.

4. In a sleeping car, a room having a side wall and end walls, a bed substantially coextensive longitudinally with the room and mounted to be swung in an arcuate path between a prone position or to a storage position adjacent the side wall with its sides parallel with the floor, similar horizontally extending guideways mounted on the end walls in the same location, similar vertically

extending guideways mounted on the end walls in similar location, means mounted on the ends of a side edge portion of the bed riding in the vertical guideways, and means mounted on the bed sides in offset relation from the transverse center line of the bed riding in the horizontal guideways.

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