March 26, 1935. P. CARCANAGUES 1,995,416

CONVERTIBLE EQUIPMENT FOR COMPARTMENTS OF SLEEPING CARS AND SIMILAR APPLICATIONS

Filed Jan. 10, 1934 2 Sheets-Sheet 1

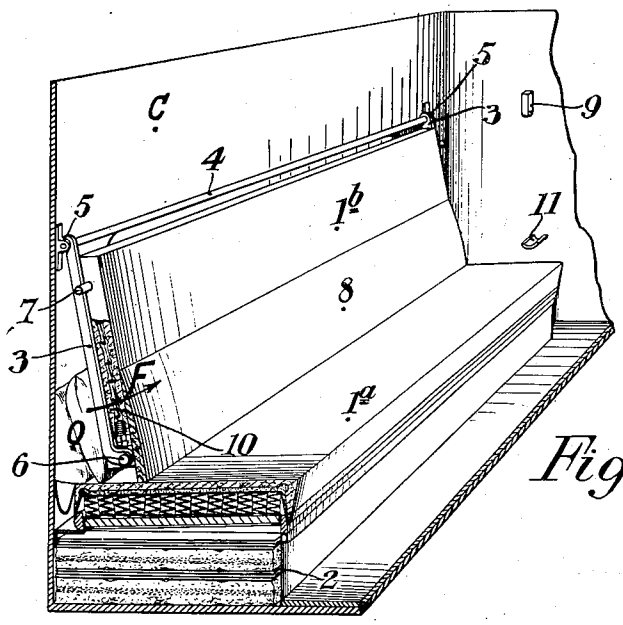


Fig. 1

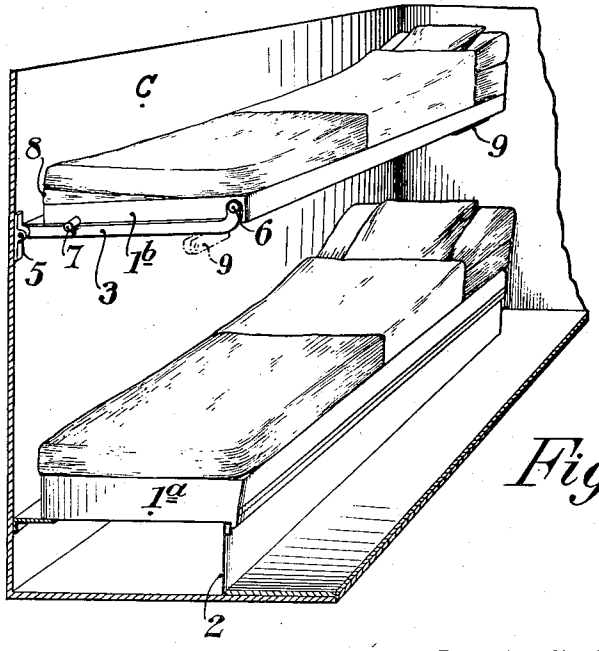


Fig. 2

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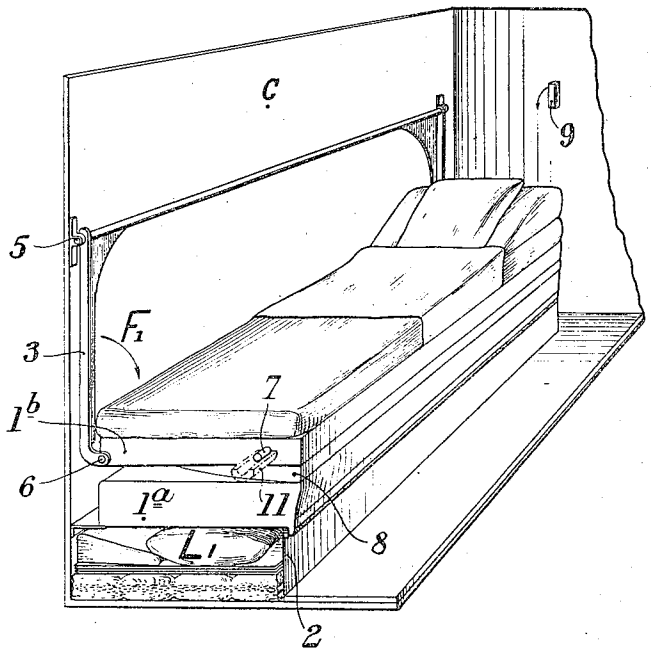
BY Haseltine, Lake & Co.
ATTORNEYS

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Fig. 3



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Patented Mar. 26, 1935 1,995,416

UNITED STATES PATENT OFFICE

1,995,416

CONVERTIBLE EQUIPMENT FOR COMPARTMENTS OF SLEEPING CARS AND SIMILAR APPLICATIONS

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Application January 10, 1934, Serial No. 706,015
In France November 13, 1933

3 Claims. (Cl. 105—322)

It is now common practice, as far as sleeping cars are concerned, to consider as first class cabin, a cabin reserved for one passenger only, and as second class cabin, a cabin which can be occupied by two passengers. The advantage derived from the possibility of offering to eventual passengers, whether they be first or second class passengers, the greatest possible number of berths, has however led to compose sleeping cars only of cabins having two superposed beds. It is then necessary, when the cabin is reserved for a single passenger (first class), to find for the night, for the spring mattress of the upper bed, a location in which it is not liable to cause any inconvenience to this single passenger, in such a manner that this first class compartment affords all the desirable comfort of said passenger.

Now, in the equipments provided up to now, the spring mattress for the upper bed is, for the night, either left in about the same position as in the day time (as a back, pushed back against the partition), or it is placed in position for the night as in a second class cabin, that is to say horizontally above the passenger lying down; in both cases, its presence is a cause of inconvenience to the passenger.

The present invention has for its object improvements in the arrangement of this convertible equipment for the compartments of sleeping carriages, in order to avoid the above mentioned disadvantages.

According to the invention, the element serving as a back during the day is so arranged that it can occupy, for the night, the two following positions:

When the compartment is to be used as second class compartment, this element is placed above the lower bed, and serves as a spring mattress for the upper bed, in the ordinary manner;

When the compartment is to be used as a first class compartment, this element is placed on the spring mattress of the lower bed, and constitutes itself the spring mattress for the single passenger occupying the compartment.

In this manner, in the second case, the free space left for this single passenger is limited neither laterally towards the partition, nor above the passenger.

In a form of construction which will be described hereinafter, the two positions for the night of this movable element differ from each other by a rotation of 180° of this element, combined with a rocking movement of its support.

In this case, this movable element is provided with springs symmetrically arranged relatively to its median plane, and symmetrically stressed so that each of the faces of this spring mattress can indifferently serve for supporting the mattress.

This form of construction will be described, by way of example only, with reference to the accompanying drawings in which Figures 1, 2, 3 are perspective diagrammatic views of the equipment of a cabin, in each of its positions of use, respectively.

This equipment comprises two elements 1*a*, 1*b*, which respectively serve as a spring mattress for the lower bed and as a spring mattress for the upper bed in position for the night, when the cabin is to be used as a second class cabin.

The element 1*a* rests, in the usual manner, on a chest 2 containing, in day time position (Fig. 1), a part L of the bedding.

In this day time position, the element 1*a* supports the movable arm rests (not shown) of the seat, and the element 1*b* serves as a back.

This element 1*b* is supported, at its ends, by two pivoted arms 3 rigid with a horizontal bar 4 which is journalled in two supports 5 secured to the partition C.

The rocking movement between the movable element 1*b* and its support 3—4, instead of taking place, as usual, at the upper part of this element when it is in day time position, takes place at 6, at its lower part. The support for the upper part of this element in ensured by tenons 7, which are secured on the sides of said element and bear against the arms 3.

In day time position, the element 1*b* is inclined downwardly and forwardly, and the empty space existing between said element and the partition receives the part O of the bedding which is not placed in the chest 2.

The back constituted by the element 1*b* is completed, at its lower part, by a flap 8.

The face of the element 1*b* which is visible in this day time position, is provided with a covering made of fabric or the like, matching the upholstery of the remainder of the compartment.

The other face, which is concealed, is covered with strong canvas.

For placing this equipment in position for the night as second class compartment, the element 1*b* is raised, in the usual manner, by causing it to pivot with its supporting arms 3 in the direction of the arrow F about the common pivot bar of the supports 5.

This element 1*b*, which then serves as a spring mattress for the upper bed, is supported by the arms 3 and 6 at 7, and its arms 3 are them-

selves supported, on the one hand, at 5, and, on the other hand, at their ends, by abutments 9 arranged in any suitable manner so that they can be moved out of the way when the element 1*b* is raised and then be replaced in position.

These abutments 9 might moreover be replaced by any other suitable means, for instance by straps hanging from the ceiling.

The flap 8 is placed, in the usual manner, on the inner edge of the element 1*b*, and the seat cushions can be concealed in the chest 2.

The equipment being in the day time position (Fig. 1), in order to place it in position for the night as first class compartment, the bedding elements O concealed behind the element 1*b* are removed, the arms 3 are pushed back against the partition C by causing them to pivot in reverse direction to that of the arrow F, then, owing to the arrangement of the joint 6, the element 1*b* is folded down, by causing it to pivot in the direction of the arrow F_1 about the pivot pin of this joint, on the element 1*a*, and it is this element 1*b* which serves as a spring mattress for the single bed of the compartment.

It is to be noted that both faces of the element 1*b* serve to support the mattress, respectively in each of the two positions for the night (Figs. 2 and 3) of the equipment. In order that in both cases, this element should be stressed in the same conditions, its springs 10 are, as stated, symmetrically arranged and stressed.

The inner edge of the element 1*b* is supported by the arms 3 and its outer edge is steadily supported by two fixed abutments 11, arranged for supporting the fingers 7 bearing on said abutments and holding these fingers stationary.

The flap 8 is concealed between the two spring mattresses, and the part L_1 of the bedding which is reserved for the second bed, as well as the seat cushions, are concealed in the chest.

In this position, the element 1*b* might also be caused to rest upon the element 1*a*, which would render the bed softer: the abutments 11 would then be dispensed with, and the joints 6 would be so arranged that the element 1*a* can be separated from the arms 3 in the position indicated in Fig. 3.

The mode of assemblage of the element 1*b*, the arrangement of the device supporting it, etc., can also, of course, be modified, without departing from the scope of the invention, according to the indications given above.

It is also to be understood that the invention is applicable to all installations other than an equipment for a sleeping car, for instance, to all vehicles for transports on rail, road, on water, or in air, and, more generally, to all convertible installations in which only limited space is available.

I claim:

1. A convertible equipment which can be converted at will into a bench, two superposed berths, or a single berth, this equipment comprising a lower mattress constituting the seat in bench position, a movable mattress which can be placed behind the lower mattress so as to constitute the back of said bench, a support for the movable mattress, said support rocking about a horizontal axis located adjacent to the edge of the movable mattress which is at the top when said movable mattress is in position for use as a back, means for maintaining the support and the movable mattress after they have been raised from their position of utilization as a back to a substantially horizontal one by a rocking movement of the support about its axis, said means being adapted to be rendered inoperative at will, and a jointed connection between the movable mattress and said support, this jointed connection being adjacent to the edge of the movable mattress which is at the bottom when this movable spring mattress is in position for use as a back.

2. A convertible equipment which can be converted at will into a bench, two superposed berths, or a single berth, this equipment comprising a lower mattress constituting the seat in bench position, a movable mattress which can be placed behind the lower mattress so as to form the back of said bench, a support for the movable mattress, said support rocking about a horizontal axis located adjacent to the edge of the movable mattress which is at the top when this movable mattress is in position for use as a back, means for maintaining the support and the movable mattress after they have been raised from their position for use as a back to a substantially horizontal one by a rocking movement of the support about its axis, said means being adapted to be rendered inoperative at will, a jointed connection between the movable mattress and said support, this jointed connection being adjacent to the edge of the movable mattress which is at the bottom when this movable mattress is in position for use as a back, and means for supporting the movable mattress when it has been moved down towards the lower mattress, from its position for use as a back to a substantially horizontal one, by a rocking movement about its jointed connection with its support.

3. A convertible equipment which can be converted at will into a bench, two superposed berths, or a single berth, this equipment comprising a lower mattress constituting the seat in bench position, a movable mattress which can be placed behind the lower mattress so as to form the back of said bench, two arms rocking about a horizontal axis located adjacent to the edge of the movable mattress which is at the top when this movable mattress is in position for use as a back, substantially in vertical planes located respectively along the lateral sides of said back, a pivot pin connecting the movable mattress to the end of each arm, supports eccentrically arranged relatively to said pivot pins and so adapted that the movable mattress rests on the upper edges of said arms through the medium of said supports in the bench and in the two berth positions, means for supporting the said arms when they have been raised until the movable mattress is moved to a substantially horizontal position, said means being adapted to be rendered inoperative at will.

PAUL CARCANAGUES.