April 15, 1930. C. T. HANSEN 1,754,465

UPPER DECK SEATING ARRANGEMENT FOR BUSSES

Filed July 3, 1926 2 Sheets-Sheet 1

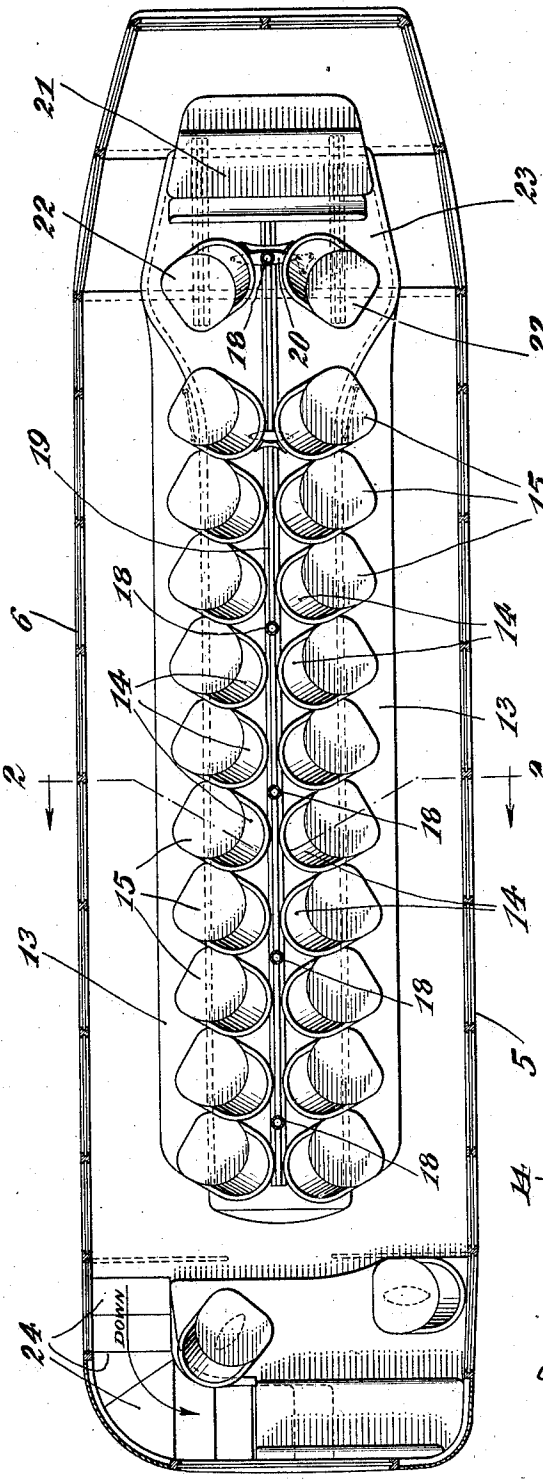


Fig. 1.

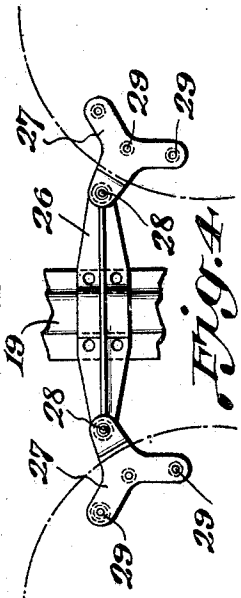


Fig. 4.

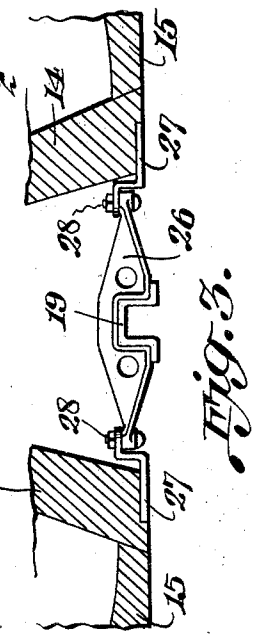


Fig. 3.

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UPPER DECK SEATING ARRANGEMENT FOR BUSSES

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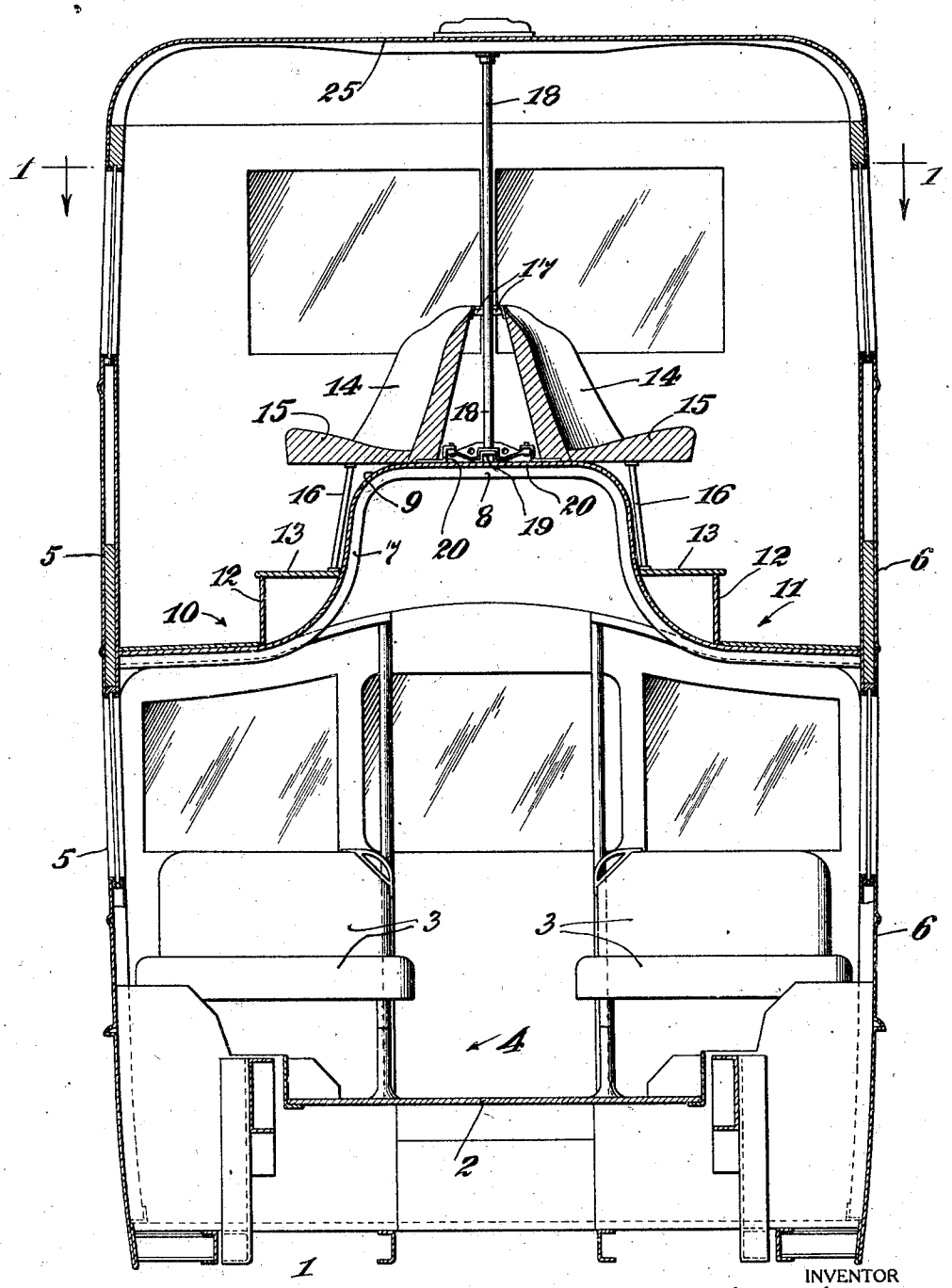


Fig. 2.

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UNITED STATES PATENT OFFICE

CONRAD T. HANSEN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HALE & KILBURN CO., A CORPORATION OF DELAWARE

UPPER-DECK SEATING ARRANGEMENT FOR BUSSES

Application filed July 3, 1926. Serial No. 120,276.

This invention relates to double deck busses or coaches, and more particularly relates to the arrangement and construction for seating passengers on the upper deck.

The principal object of my invention is to provide an upper deck arrangement which gives comfortable seating accommodation to a maximum number of passengers, and at the same time permits free and easy access to any and all of the seats at any time. Another object of my invention is to provide an upper deck arrangement of the character described, which is attractive in appearance and sturdy in construction; and an arrangement which may be employed in busses and coaches which have the upper deck covered, as well as with those which have the upper deck uncovered. A further object of my invention is to provide an upper deck bus body construction having ample room for the movement of passengers on both the upper and lower decks and yet of limited overall height to conform to existing street conditions. To this end I have limited my construction to a height of thirteen feet or less in order to clear bridge heads and like obstructions and still provide adequate head room on both upper and lower decks. Other objects of my invention will be in part obvious and in part pointed out hereinafter.

In order that a clearer understanding of my invention may be had, attention is hereby directed to the accompanying drawings, forming a part of this application and illustrating certain possible embodiments of my invention.

Referring to the drawings, Fig. 1 is a horizontal sectional view through the top portion of a closed double deck bus embodying this invention, the view being taken on the line 1—1 of Fig. 2; and Fig. 2 is a vertical transverse sectional view of the same, and is taken on the line 2—2 of Fig. 1. Fig. 3 is an enlarged side view of the seat bracket attached to the rear bottom edge of the seat. Fig. 4 is an enlarged top view of the seat bracket with the rear edge of the seat shown in dot and dash lines.

Similar reference characters refer to similar parts throughout both views of the drawings.

Referring to the drawings, the bus body comprises a bottom construction 1, including suitable flooring 2 and seats 3 set on the flooring along opposite sides of the bus, leaving a longitudinal center aisle 4 between these rows of seats. The sides 5 and 6 of the bus enclose the lower deck as well as the upper deck, and support the roof 25. A construction is provided which constitutes both the roof of the lower deck and the flooring and seat support for the upper deck. This construction includes metal beams 7, which extend between and are supported on the two side walls of the bus. Toward each side wall, these members extend substantially horizontally, and at their centers are bowed upwardly, as at 8, to provide head room over the center aisle 4 of the lower deck. These beams 7 are covered with a suitable covering, such as 9. A sufficient distance inward from each side of the bus, to leave an aisle 10 and 11, a vertical riser 12 rests on and is secured to the beams 7 and covering 9. A horizontal foot rest or tread, which may comprise plates 13, is supported along its outer edge on each riser 12, and at its inner end is supported and secured to the beams 7 and cover 9 where they bend upwardly.

The seats comprise essentially the seat back portion 14 and the seat bottom 15 secured together to form a unitary seat. At the center, the beams 7 and cover 9 form a raised flat surface and a longitudinal rail 19 is placed centrally thereof. To this rail, brackets 20 are secured which support the rear edges of the upper deck seats. Brackets 20 comprise three parts, saddle portion 26 riding rail 19, and two plate members 27 one at each end of the saddle portion secured to the rear bottom edges of the seats by screws 29 and joined to the saddle portions by bolts 28.

The cushion portions of these seats are further supported by struts 16, which rest on the tread 13 and support the seats from beneath. Thus it will be seen that the cushion base is entirely supported by brackets 20 and struts 16 and not dependent upon the cover 9 as a means of support. The seating load is evenly distributed over this construction by rail 19. Adjacent seat backs 14, on the opposite sides

of rail 19, are secured together at their top edges by brackets 17, giving rigidity to the seating structure.

In closed bus construction posts 18, secured to the rail 19, may extend up to the roof and aid in supporting the same.

The seats are preferably in staggered arrangement, that is, each seat faces toward the front of the bus at an acute angle to the longitudinal center line thereof. This arrangement is pleasanter for the passengers than when the seats are facing at right angles to the line of travel, and at the same time less seating space is required transversely of the bus. Thus, the side aisles 10 and 11 may be made wider than if the seats were faced at right angles to the line of travel.

If desired, a seat 21 may be supported on the front end of the raised seat supporting portion, and if this seat is employed, the two seats 22 immediately in the rear thereof may be faced rearwardly. In this event, the risers 12 and treads 13 need not extend further than the seats 22. This permits the raised central portion of the lower deck roof to be widened toward the front of the bus, as at 23, to give increased head room at the lower deck for the movement of passengers. Preferably, the seat 21 across the front is large enough to accommodate comfortably at least three passengers.

It will be noted that in the arrangement shown there is a clear and unobstructed aisle entirely around the raised central portion which supports the seats. This permits the occupant of any seat a free passageway to the stairs 24, and allows passengers entering the upper deck from the stairway 24 free access to any unoccupied seat. In taking a seat, the passenger steps on the tread 13, and uses this tread as a foot rest when he is seated. The feet of seated passengers will in no way obstruct the aisles around the seats.

As many changes could be made in the above construction and as many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim is:

1. A bus body having a lower deck and an upper deck, a partition constituting the ceiling of the lower deck and the flooring of the upper deck, said partition having a longitudinally arched center portion and substantially horizontal aisle portions at each side of the bus, a rail extending longitudinally of said arched portion, brackets supported by and extending laterally from said rail and individual seats carried by said brackets and disposed in rows on opposite sides of the rail in angular relation to each other.

2. A bus body having a lower deck and an upper deck, a partition constituting the ceiling of the lower deck and the flooring of the upper deck, said partition having a longitudinally arched center portion, a rail extending longitudinally of said arched portion, a bracket having an arm projecting on each side of the rail and secured to said rail; individual seats, one supported on each of said arms, said seats being in angular disposed relation to each other, and a second bracket connecting the backs of said seats together.

3. A bus body having a lower deck and an upper deck, in combination, a partition constituting the ceiling of the lower deck and the flooring of the upper deck, said partition having a longitudinally arched center portion, a rail extending longitudinally of said arched portion, a plurality of brackets secured to said rail and projecting therefrom, and seats supported by said brackets.

4. A bus body having a lower deck and an upper deck, in combination, a partition constituting the ceiling of the lower deck and the flooring of the upper deck, said partion having a longitudinally arched center portion, a rail extending longitudinally of said arched portion, a bracket secured to said rail, said bracket having an arm projecting from each side of the rail, and a seat supported on each of said arms.

This specification signed this 29th day of June, 1926.

CONRAD T. HANSEN.