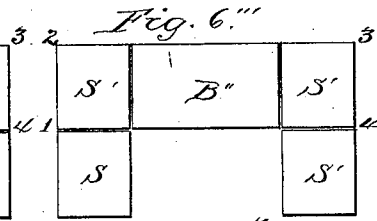
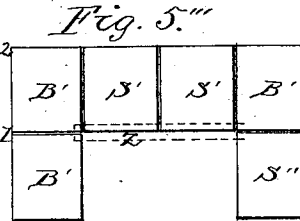
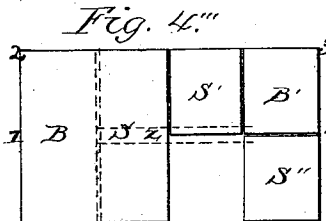
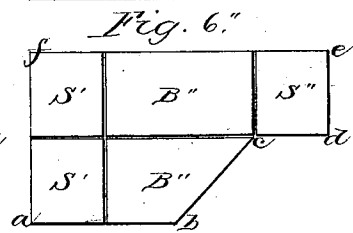
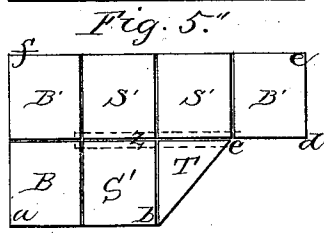
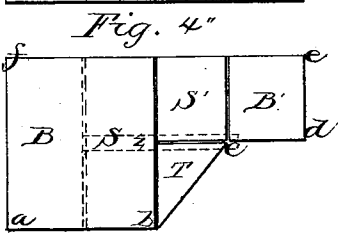
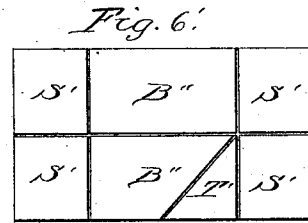
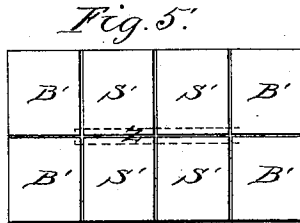
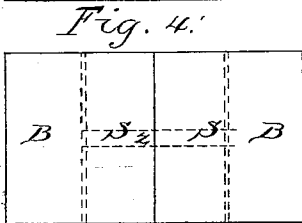
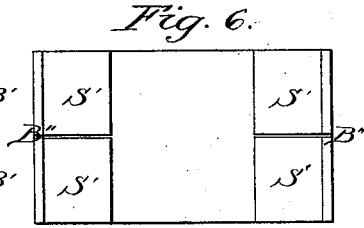
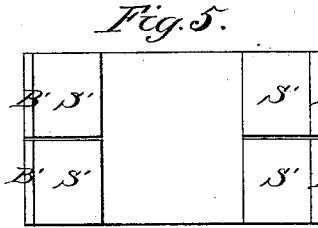
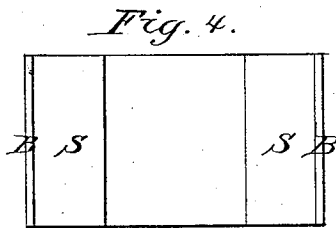
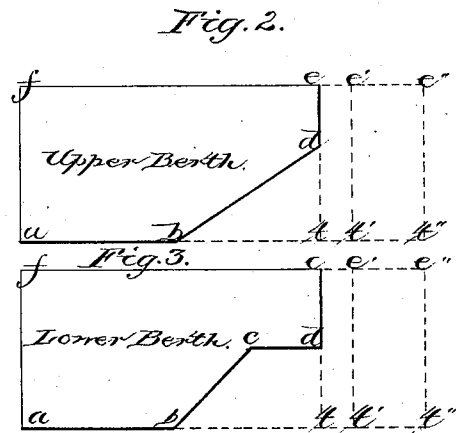
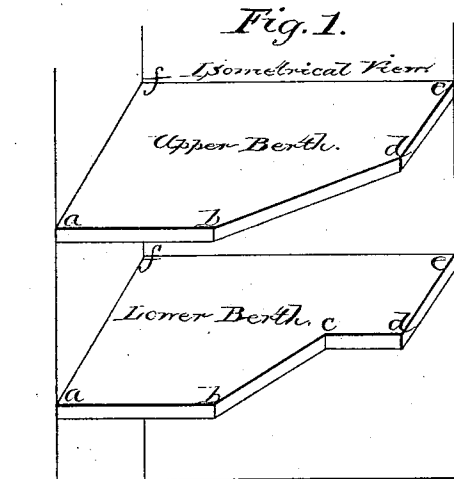


H. ALLEN.
SLEEPING CAR.

No. 181,616.

Patented Aug. 29, 1876.



Witnesses

Lewis O Taylor
J Warran Talmadge

Inventor

Horatio Allen

UNITED STATES PATENT OFFICE

HORATIO ALLEN, OF SOUTH ORANGE, NEW JERSEY.

IMPROVEMENT IN SLEEPING-CARS.

Specification forming part of Letters Patent No. **181,616**, dated August 29, 1876; application filed February 1, 1876.

To all whom it may concern:

Be it known that I, HORATIO ALLEN, of the town of South Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Sleeping-Cars, which improvements are fully set forth in the following specifications, reference being had to the accompanying drawing.

The objects of my invention are to provide in the section, or in direct connection with the section, of a sleeping-car, first, a place of privacy, in which preparation for the night and dressing in the morning may take place; second, a ready use of a day-couch at any time for one passenger, with a seat or two seats, which can be used at the same time.

I effect the first object by making the two berths, upper and lower, of a form and dimensions that leave unoccupied a part of the section, and by providing curtains by which to inclose that part, and separate it entirely from the central passage of the car and from the berths. From this place access is had to and from the berths, and, for convenience of reference, I call it "place of access."

Figure 1 presents an isometrical view of the upper and lower berths in their relative position. The end of the section on the right is omitted, that the berths may be fully seen. Fig. 2 presents a plan view of the upper berth, and Fig. 3 a plan view of the lower berth.

In the three Figs. 1, 2, and 3 the forms of the berths are indicated by the letters *a b c d e f*. The part not occupied by berths, and called "place of access," is indicated by letters *b d t*.

Room in the place of access adequate for the objects in view can be provided in the manner described without impairing the sleeping accommodation of each berth for one passenger. More room in place of access can be had by increasing the length of the section, as shown in Figs. 2 and 3 by the dotted line *e' t'*, and making the place of access of the form shown by letters *b c d e e' t'*. If the section is made eight feet long, the berths may remain rectangular, or of the form described. The place of access will, in the one case, be of the form *t e e' t'*, and in the other of the form *b c d e e' t' t'*. In each case the combination is of same char-

acter in providing place of access in combination with the berths of the section.

Whatever combinations of seats and backs are used to make up the lower berth, they admit of forms and dimensions that will embrace the improvement described.

Fig. 4 presents the combination in which the seats and backs at each end of a section are connected, and are in length of the width of the section, and are movable. They are arranged as seats in Fig. 4. *S* are the seats; *B*, the backs.

In order to provide for combination of seats and backs that will form a lower berth of the form invented by me, and also a combination that will form a day-couch, so called, I have made the following modification of seats and backs of Fig. 4, viz: in place of one full seat and back, I have two single seats and backs, and a central bar of support from seat to seat, and a triangular cushion of same character as the seats. The seats, backs, triangular piece, and central bar of support provide for three combinations: first, of all the seats and backs, using central bar of support, whereby a rectangular berth is formed, as shown in Fig. 4', in which the bar of support is shown (*Z*) in dotted lines; second, of the full-width seat and back, and one single seat and back, and triangle *T* and central bar of support *Z*, as shown in Fig. 4'', and furnishing a berth of the form *a b c d e f*, and leaving unoccupied by berth the place of access, so-called, of form *b c d t*; third, of the full-width seat and back, and one single seat and back and supporting-bar, as shown in Fig. 4''', and furnishing a day-couch, so called, of form *1 2 3 4*, and a single seat.

As another mode in which the berth of form invented by me and day-couch, so called, may be formed by combinations of seats and backs, I propose to have all the seats and backs single, separate, and movable, to provide a triangular cushion-piece, of same character as seats, and a central bar of support.

Fig. 5 presents the seats and backs as arranged for day service. The seats, backs, triangle, and supporting-bar furnish three combinations, viz: first, of all the seats and backs, using the central bar of support, forming a rectangular berth, as shown in Fig. 5'; second,

of the seats and backs next the side of the car, and one seat and back and triangle piece, as shown in Fig. 5'', and furnishing a berth of the form *a b c d e f*, and leaving unoccupied by berth the place of access, so called, *b c d t*; third, of the seats and backs next the side of the car, and one seat at each end of the section, and central supporting-bar, as shown in Fig. 5''', furnishing day-couch of form 1 2 3 4 and two seats.

As another mode in which the berth of form devised by me, and also day-couch, so called, may be formed by combination of seats and backs, I propose that all the seats shall be single and movable, and that there be two movable backs, each in length nearly the width of two single seats, one back being in two parts doweled together, but admitting of being separated, one of the pieces being a triangle.

These seats and backs are shown in Fig. 6 as seats and backs for day service.

The seats and backs, Fig. 6, furnish three combinations, viz: First, of all the seats and back, as shown in Fig. 6', furnishing a rectangular berth. In this combination the backs are placed lengthwise the section, between the seats moved to the ends of the section. Second, of the two seats next the side of the car, and one back between the two seats, and of one seat next the end of the section, and one back without the triangle-piece near that seat,

as shown in Fig. 6'', and furnishing a berth of the form *a b c d e f*, and leaving not occupied by berth the place of access, so called, of form *b c d t*. Third, of the two seats next the side of the car, and one back between them, and a seat at each end of the section, as shown in Fig. 6''', furnishing a day-couch, so called, of form 1 2 3 4.

The place of access, as herein described, can be used in one of two ways—one when each passenger in turn uses it at night before taking possession of his berth, and as a place of dressing after rising in the morning; the other when, by agreement, the two passengers use the place of access as a means whereby they may have use of the full section to make ready for the night and to dress in in the morning.

I claim as my invention—

1. In combination with a rectangular berth-section, a berth or berths having a portion thereof removed—that is to say, of a form not occupying the entire horizontal sectional area, in order to provide "a place of access," substantially as described.

2. The combinations of seats and backs herein described, and presented in Fig. 4'', Fig. 5'', Fig. 6'', whereby a berth of the form described, and of access as described, are obtained.

HORATIO ALLEN.

Witnesses:

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J. WARREN TALMADGE.