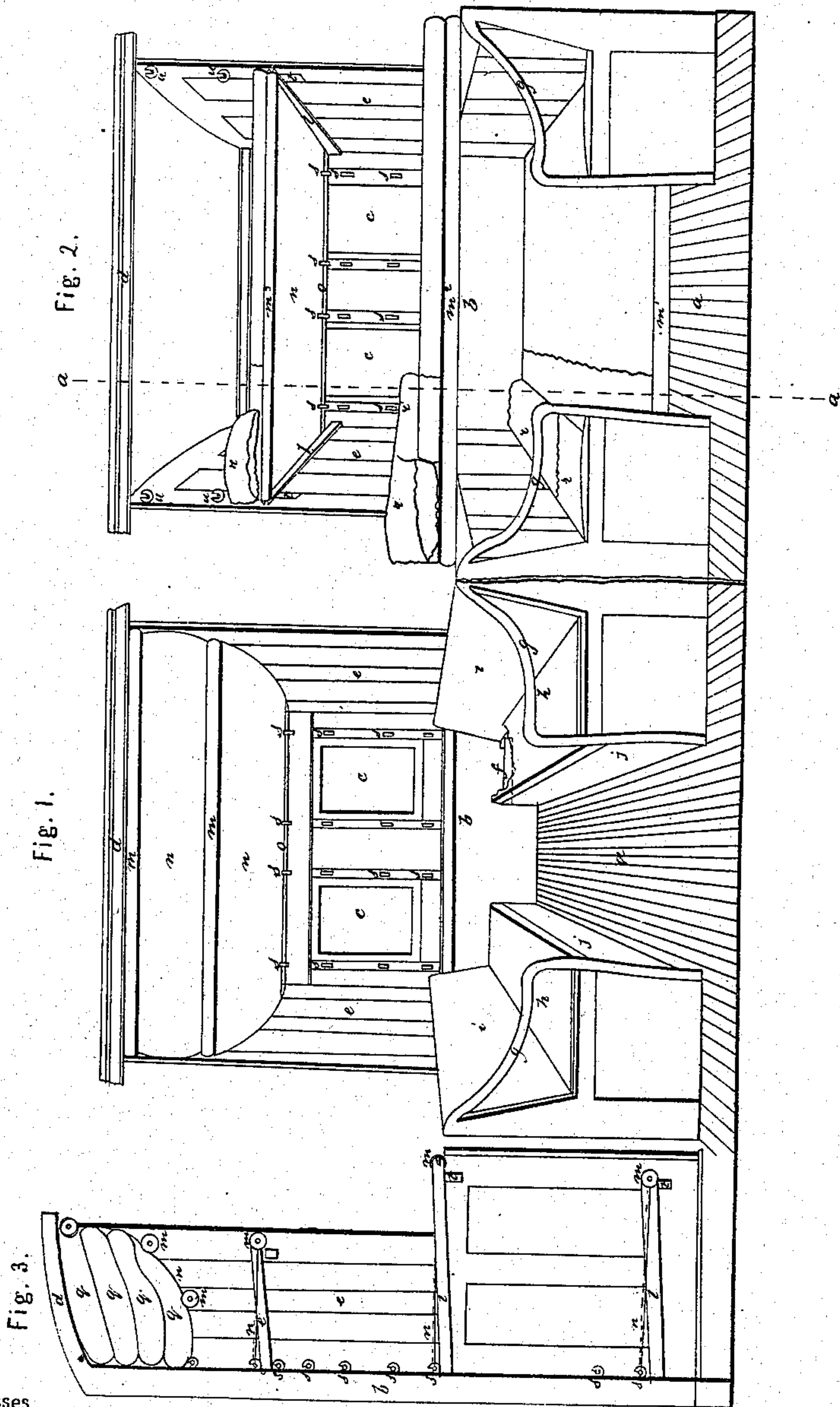


*T. T. Woodruff.*  
*Seat & Couch.*

*N<sup>o</sup> 86,486.*

*Patented Feb. 2, 1869.*



Witnesses

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# United States Patent Office.

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Letters Patent No. 86,486, dated February 2, 1869.

## IMPROVEMENT IN SLEEPING-CARS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THEODORE T. WOODRUFF, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in the Mode of Constructing Movable Seats and Couches for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, reference being had to the letters of reference thereon marked.

Figure 1, of the drawings, is a longitudinal vertical section of a division of a railroad-car, representing an elevation of one series of seats, and also representing the position of couches for such division, when such couches are not in use.

Figure 2 is another longitudinal vertical section, representing the seats removed, and couches spread out for use.

Figure 3 is a cross-vertical section of the same, taken at the line A a of fig. 2, representing the mechanical devices for holding the couches, and the different positions of the couches.

Like letters represent like parts in the letters of reference upon the drawings accompanying this petition.

My said invention relates to the method of constructing seats and couches for railroad-cars, so that either seats or couches can be removed conveniently, to give place to the others, so as to allow passengers to occupy either a seat or couch in the same space in the car.

Here follow the letters of reference:

- a*, the floor of the car.
- b*, the side.
- c c*, the windows.
- d*, the roof.
- e e*, the partitions.
- f f f f*, ledges, or cleats, on which the seats and their backs rest.
- g g*, the seat-arms.
- h h*, the seats.
- i i*, seat-backs.
- j j*, riser, under the seat.
- l l*, braces, or stretchers, to support the couches.
- m m m*, front rail of the couches.
- n n n*, apron or support for mattress. (See dotted lines in fig. 3.)
- o o o*, metallic rod in back edge of apron. (See figs. 1 and 2.)
- q q q q*, mattresses. (See fig. 3.)
- r r r*, pillows.
- s s s s*, series of hooks or supports, for the back edge of aprons.
- t t t t*, stops, upon which rest the braces or stretchers which support the couches.
- u u u u*, eyes or supports for front rail *m*. (See fig. 2.)

In the accompanying drawings—

*a* represents the floor of the car;  
*b*, one side, with the usual windows *c c*; and  
*d*, the roof.

The car is to have the usual longitudinal passage-way between the ranges of seats, and is to be divided, by cross-vertical partitions *e e*, into longitudinal compartments of sufficient length for persons to lie down full length.

The partitions extend little more than half of the distance between the side of the car and the longitudinal passage-way, and in the recess thus formed, two seats, *h h*, are placed, with arms, *g g*, between the seat and the longitudinal passage-way.

The seats are supported on ledges or cleats, *f f f f*, as seen in the drawing.

The backs of the seats *i i* are to be supported by the same ledge or cleats *f f f f*, and by the partitions *e e*.

There is to be a riser, *j j*, under the front edge of each seat, extending from the floor to the seat, the same to be held in its place by buttons or bolts, so that the riser may be removed.

It may be hinged to the floor, so as to be allowed to fall upon the floor, by turning the buttons, or by sliding bolts.

By the method thus specified, two seats in each compartment are provided, either of which is intended for two persons. Thus each compartment accommodates four persons with seats, as will be readily seen by reference to fig. 1.

I now proceed to describe the couches.

Couch *M* is constructed by a continuous apron of canvas, or some other stout flexible material, extending the length and breadth of the compartment, with a broad hem in one edge of it, and a narrower one in the other edge, the said hems being of a width, in one edge, to receive a cylindrical rail, *M*, of a sufficient size to give the required strength, when only supported at the extreme ends, and the other edge to receive a metallic rod, of a size to give requisite strength, when supported at several different points, as shown by the drawings.

The rail *m* will be provided with pivots, one at each end, and the rod *o* being inserted into and through the hem of the apron, and eyelets worked in the back edge of the said apron, as seen in figs. 1 and 2, so as to allow the hooks *s s s s* to enter into the said eyelets, and clasp the rod *o*.

The rod *o* may be placed upon the hooks *s s s s*; the front rail *m* may be then carried up, so as to place the apron upon an angle of about forty-five degrees. Then the two braces *l l* may be placed, with their tenons entering into the sockets, near the partitions *e e*, and below the rod *o*; then the pivots in the front rail *m* may enter into the bearings in their front ends. Then the rail may be carried down to a level with the rod *o*, where the braces *l l* will rest upon their



supports *t t*, and thus bring the apron upon a strain, when the mattress *q* may be placed upon the apron, and made ready for use, and, in like manner, the second and third couch may be constructed and operated.

When the couches are not required for use, they may be placed in position, as seen in figs. 1 and 3, by applying the rod *o*, of the couch *M*<sup>3</sup>, to the upper series of hooks *s s s s*, and then carry its front rail *m* up to the lower series of eyes *u u*, and insert the pivots of the rail into the said eyes or bearings. Then roll the apron of couch *M*<sup>2</sup> upon its rail *m*, and then place the roll, thus rolled, over and into the apron of couch *M*. Then, with the apron of couch *M*<sup>1</sup>, spread out and carry it up to the first couch-apron, put up in its elevated position, and drop its back edge over into and upon the one first elevated, and allow the apron to slide over into the one first put up, so that the two front rails, *m*<sup>1</sup> and *m*, will come together, leaving the last rail hanging outside. Then place all of the mattresses upon the apron first put up, and then take hold of the rail hanging over, and carry it up to the upper series of eyes *u u*, and enter its pivots into the said eyes.

Thus they will be so arranged that there will be a series of eyes or bearings, so as to receive all three of the rails *m m m*.

The mattresses and aprons being disposed of, the pillow-sheets and covers may be packed away in the enclosed space under the seats.

The lower couch *M*<sup>1</sup> is intended for two persons, the middle couch *M*<sup>2</sup> is intended for one person, and the upper couch *M*<sup>3</sup> is intended for one person.

The seats and couches being thus described, it is clear to be seen that in the space where four seats are provided, four couches are also provided, and that they can be conveniently removed, so that the seats may be removed, to give place to the couches, or that the couches may be removed, to give place to the seats.

I am aware that seats for railroad-cars have been constructed very similar to those which I have described, but they differ in a material point of view. They were intended to serve as seats, and also as couches, and to be used in two different capacities. Their movements were similar to those I have herein described, yet they differ in this respect. I rest my seat and my seat-backs upon supports similar to the ones previously in use as seats, but the movements are quite different. When my seats are not in use, they are placed upon the floor, so as to make room for a separate and

distinct couch, and constitute no part of a couch, while those previously in use are only slightly depressed, and spread out upon supports, so as to form a couch; therefore my seat differs from the ones previously known, and is a distinctive feature in my said invention.

It will be obvious, from the foregoing, that many changes may be made in the mere mode of construction, without materially changing the principle of my said invention.

I apply several series of hooks *s s s s* at different elevations, so that the couches may be used at different heights, according to circumstances.

Although I have described my said invention as being applicable to cars, as now generally employed on railroads in this country, with a passage-way along the middle of the cars, from end to end, which requires the couches to be placed longitudinally along the sides, it will be obvious that my said invention can be applied with equal facility with the couches placed across the car; and when the seat is elongated, so as to make room for four persons upon one seat, the said elongated seat may be constructed in the same method as herein specified, and be removed in like manner, so as to make room for couches, to be in like manner applied, either in open cars or in state-rooms.

The aprons which support the mattresses may be lined or faced with some suitable material, so as to present a rich and ornamental appearance when exposed to view.

What I claim, and desire to secure by Letters Patent, is—

1. The hammock, constructed as described, and attached to the side of the cars, when suspended by the bars *l l*, and their supports, all constructed and contrived to operate substantially as and for the purpose set forth.

2. In combination with the described construction of couches, the seats contrived to be removable, as and for the purposes described.

3. The mode of securing the hammocks and bedding, when not in use, in the upper part of the car, in such a manner that one of the hammocks may be used to cover and hold all the others and the bedding, as and for the purpose set forth.

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Witnesses:

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