2 Sheets—Sheet 1.

S. S. B. ALEXANDER.

SLEEPING-CARS.

No. 194,395. Patented Aug. 21, 1877.

Fig. 1.

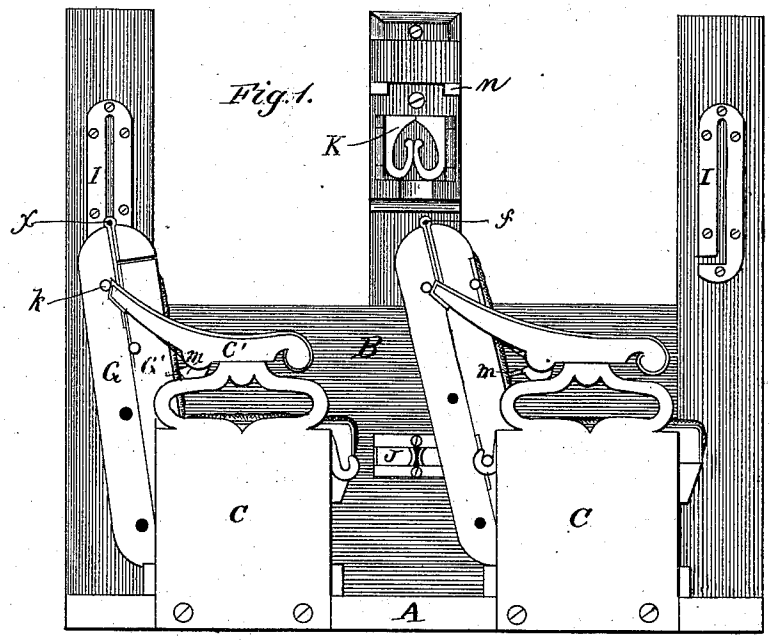
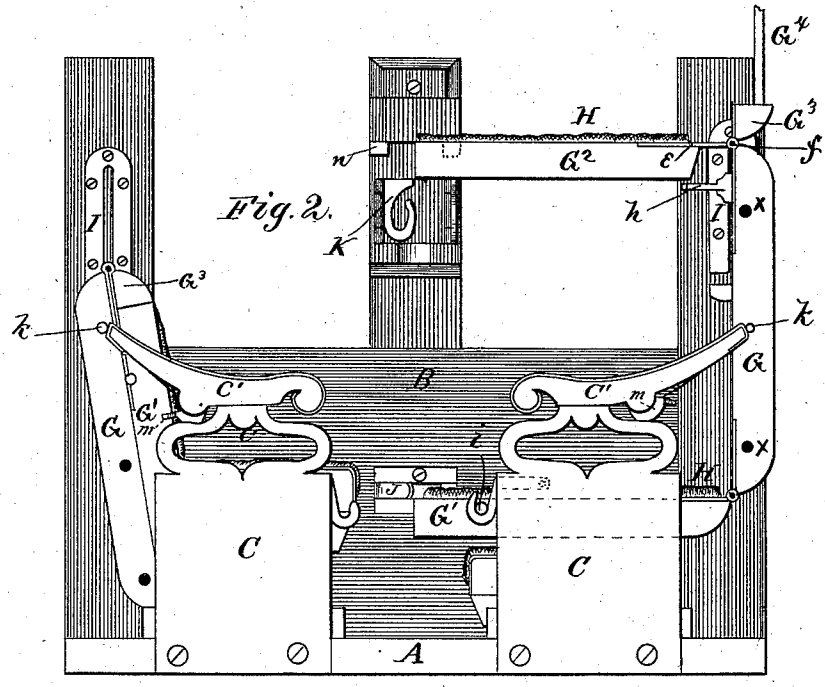


Fig. 2.



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2 Sheets—Sheet 2.

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Fig. 3.

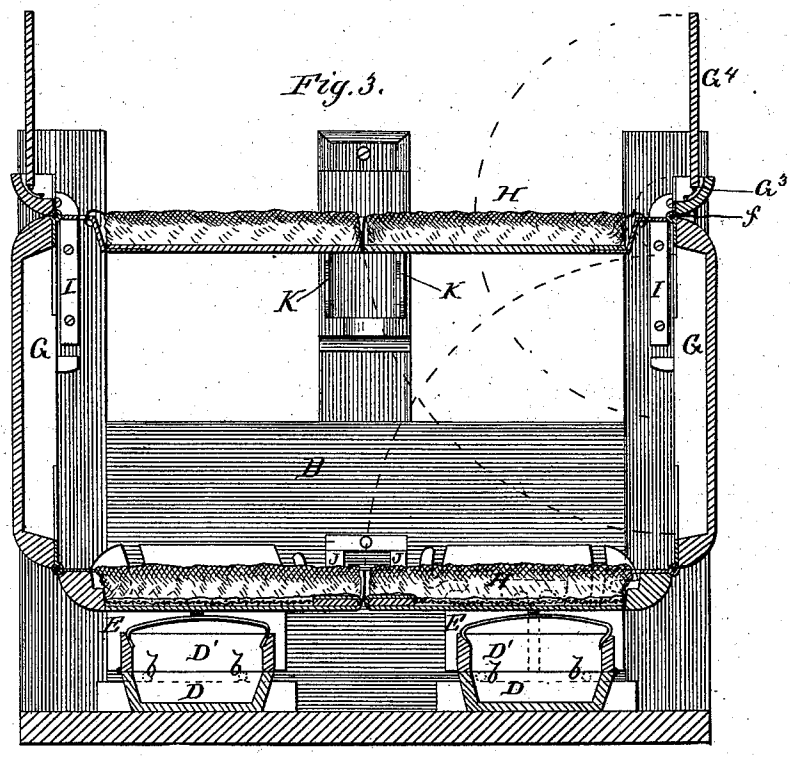


Fig. 4.

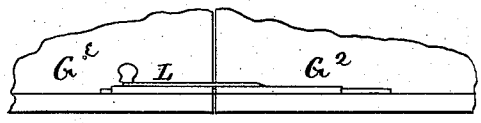


Fig. 5

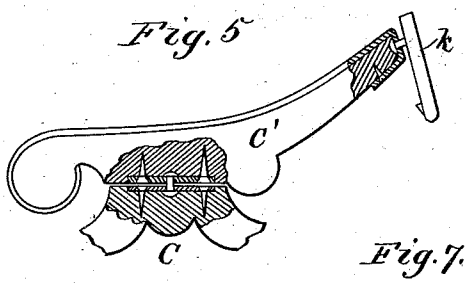


Fig. 6.

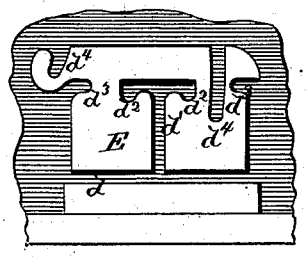
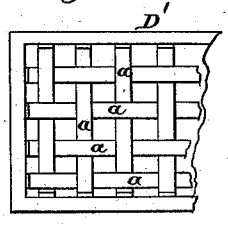


Fig. 7.



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UNITED STATES PATENT OFFICE.

SAMUEL S. B. ALEXANDER, OF MOBILE, ALABAMA.

IMPROVEMENT IN SLEEPING-CARS.

Specification forming part of Letters Patent No. **194,395**, dated August 21, 1877; application filed August 13, 1877.

To all whom it may concern:

Be it known that I, SAML. S. B. ALEXANDER, of Mobile, in the county of Mobile, and in the State of Alabama, have invented certain new and useful Improvements in Sleeping Cars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a sleeping-car, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of one section of my sleeping-car, showing both seats closed. Fig. 2 is a similar view, showing one seat opened. Fig. 3 is a longitudinal section of the sleeping-car section. Figs. 4, 5, 6, and 7 are detailed views of parts of the invention.

A represents the floor, and B the side, of the car. C C are the standards at the outer ends of the two seats that form the sections.

Each seat proper is made in two parts, a bottom box, D, and a lid or cover, D′, the latter being simply a frame hinged to the box, and having a net-work of interwoven or interlaced flat springs, *a a*, as shown in Fig. 7, said springs being bent to give the seat the proper shape, and suitable upholstering covering the same. The seat D D′ is used as a receptacle for pillows, sheets, &c. At each end of the box part D of the seat are two projecting pins or lugs, *b b*, for supporting the seat. On the inner side of the end piece C, and corresponding therewith on the side of the car, are secured plates E E, which form grooves and recesses, as shown in Fig. 6. Near the bottom is a horizontal groove, *d*, to receive the pins *b b* of the seat when the berths are opened. From the center of this groove leads a vertical T-shaped groove, d^1, with a recess, d^2, in the end of each of its arms.

As stated, when the berths are opened the seat D D′ is supported in the grooves *d* by the pins *b*. When the berths are closed the seat is moved so that, by lifting the same, one pin, *b*, at each end, will pass up through the grooves d^1, and when they reach the top thereof the seat is moved back till the same pins rest in the rear recesses d^2. The front pins at the same time enter recesses d^3 in the plate, thus supporting the seat for use in the daytime.

There is a recess, d^3, at each end of the plate E, so as to change the position of the seat according to the position of the back—that is to say, according to the direction the car is moving.

The back of each seat is made in sections, and forms, when opened, one-half of both the upper and lower berths. It is constructed in the following manner: G is a box-like frame, to the lower end of which is hinged a frame, G^1. This latter frame is upholstered on its outer side, and closes against the box-frame G. Near the upper end of the frame G is, by elongated strap-hinges *e e*, hinged a third frame, G^2, which is of such dimensions as to close inside of the main frame G. The two frames G^1 and G^2 contain mattresses H H, as shown. The hinges *e e* have one rod, *f*, passing through them, and on this rod is hinged a cap, G^3, and inside of this cap is hinged a board, G^4. The frame G^2, with its mattress, folds within the main frame G. The board G^4 and cap G^3 are then turned down, and fastened by a spring-catch, *h*, on each side. The frame G^1 is finally closed, and fastens with the same catches, *h h*. This completes the back of the seat.

On each side of the upholstered frame G^1 are two projecting pins, *i i*, set at different distances from the edge. These are intended to rest in grooves d^4 d^4 of the plates E.

When the back is closed, as above described, either end may be upward, and the back can be reversed by simply throwing it over forward, and it is held in position by being supported on the lower pins *i*, and by a swiveled pin, *k*, entering a hole, *x*, in the side of the main frame G. This pin is swiveled in the rear end of the arm-rest C′, which is pivoted on top of the side piece C, so that it can be turned around according to the position of the back. This arm-rest is held in either position

by means of a spring-latch, *m*, underneath. The spring *k* may also be provided with a spring-catch, if desired.

When the back is thrown to the side, where it will be when the berths are to be opened, the inner end of the hinge-rod *f* enters an opening near the bottom of a longitudinally-slotted plate, I, secured to the side of the car.

When the berths are to be opened the seat D D′ is lowered, as above stated, the frame G^1 alone of the back—being first released from the catches *h h* and the pin *k* of the seat-rest removed from its hole—is lowered until it is supported in a horizontal position on the pins *i i* in both the grooves d^4. The act of turning down the frame G^1 raises the remainder of the back, the rod *f* passing upward in the slotted plate I, forming a support at the inner side, while the outer side is supported by inserting the swiveled pin *k* in another hole, *x*, in the frame G.

The adjoining ends of the frames G^1 of the two seat-backs are then held down by spring-arms J J, which are hinged in a metal casing inserted in the side of the car, and turned outward over the edges of the frames. When the berths are folded these arms J are turned inward out of the way.

The cap G^3 and board G^4 are now raised, completing the partition for the section. The frame G^2 is turned upward to a horizontal position, where it will be held by a catch, *n*, and supported by a hinged spring-bracket, K. This catch and bracket are both arranged in the side of the car. At the outer side they are connected by a bolt, L, arranged in one frame and taking into the other, as shown in Fig. 4.

This construction of the various parts is compact, and can be easily and quickly operated.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a sleeping-car, a reversible seat-back made in two sections, hinged together, forming, when unfolded, one end and one-half of the lower berth, and provided with a hinged frame to form one-half of the upper berth, substantially as herein set forth.

2. In a sleeping-car, a removable and vertically-adjustable cushioned seat, having a box underneath, substantially as and for the purposes herein set forth.

3. The plates E, forming the grooves *d* d^1 and recesses d^2 d^3, in combination with a car-seat having projecting pins *b b* in its ends, substantially as and for the purposes herein set forth.

4. The sectional reversible car-seat back, consisting of the frames G G^1 G^2, cap G^3, and partition G^4, all constructed substantially as and for the purposes herein set forth.

5. The combination of the reversible sectional seat-back, having projecting pins *i i*, and the grooves d^4 in plates E, for the purposes herein set forth.

6. The pivoted reversible arm-rest C′, provided with the swiveled pin *k* and spring-latch *m*, substantially as and for the purposes herein set forth.

7. The pivoted spring-arms J J, in combination with the frames G^1, for the purposes set forth.

8. The catch *n* and bracket K, in combination with the frame G^2, for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of August, 1877.

SAMUEL S. B. ALEXANDER.

Witnesses:
FRANK GALT,
J. M. MASON.