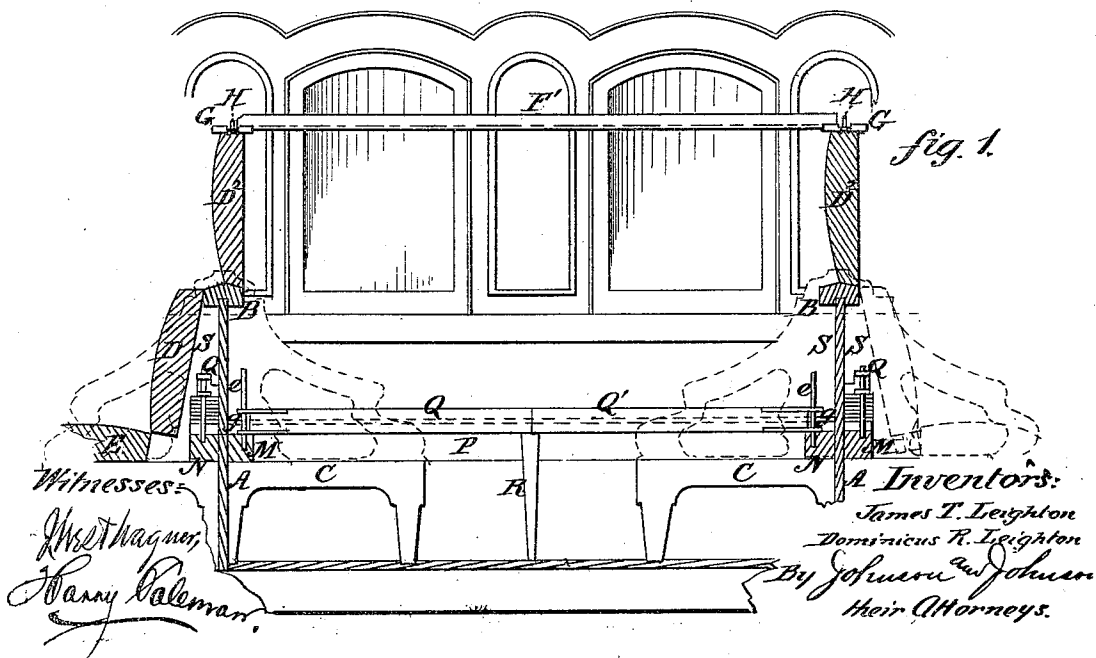
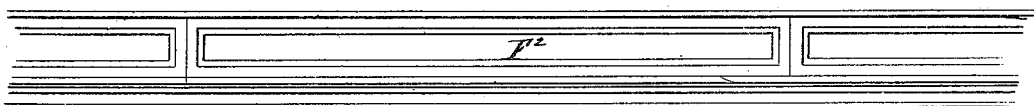
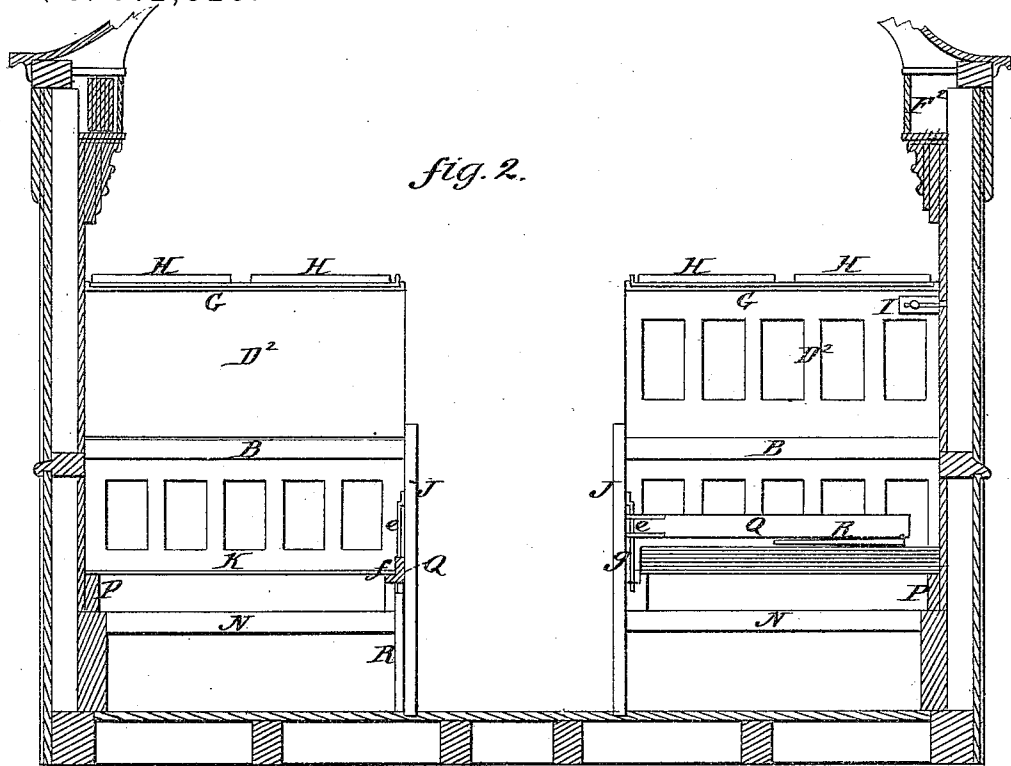


J. T. & D. R. LEIGHTON.
Sleeping-Cars.

No. 142,923.

Patented September 16, 1873.



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fig. 3.

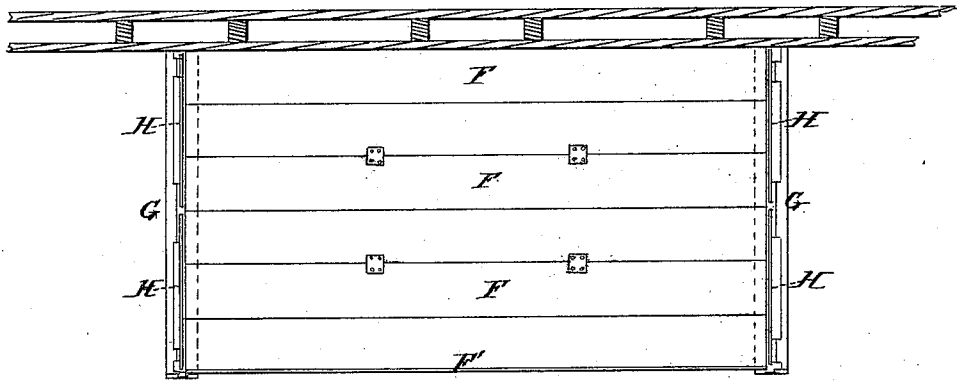
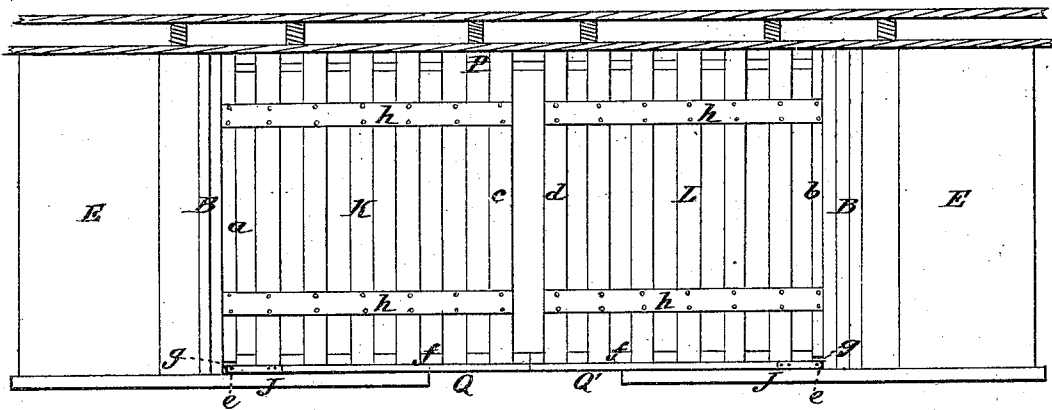


fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES T. LEIGHTON AND DOMINICUS R. LEIGHTON, OF NEW HAVEN, CONN.

IMPROVEMENT IN SLEEPING-CARS.

Specification forming part of Letters Patent No. **142,923**, dated September 16, 1873; application filed August 14, 1873.

To all whom it may concern:

Be it known that we, JAMES T. LEIGHTON and DOMINICUS R. LEIGHTON, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Sleeping-Cars, of which the following is a specification:

Our invention has for its object the accommodation of railway-cars with sleeping-couches for night travel, and to effect such accommodation in a way and by means that will require as little expense to accomplish the design and as little trouble in making the changes for night and day travel as possible, and using for this purpose the simplest form of seats, and their utilization in the formation of the upper couch. These objects are carried out by supporting the slatted bottom for the upper couch directly and entirely, and at both ends alike, upon the lower edges of the cushioned seat-backs when these backs are turned up on their edges and fixed in positions for that purpose, thereby dispensing with any separate arrangements and devices of any kind for holding or supporting the upper couch, such as hinged folding suspending-boards, as such additions and suspending appliances for the upper couch greatly increase the expense of the couch and the weight of the car, while the lower couch is formed upon horizontal bars, hinged by one end in a space at the back of each seat, in a manner to be folded within said space, and to be turned and thrown out against the seat ends, and supported at their contiguous and opposite ends to receive, hold, and sustain, in connection with a ledge on the car-wall, a slatted bottom of two sections, which, when not used, are folded alike, with their sustaining-bars in spaces behind each seat-back. In this manner are the seat-backs utilized in rearing the upper couch, and the supporting-bars for the lower couch are folded together with the slats in spare spaces behind the seat-backs, ready to be brought out in positions for the lower couch, by simply removing the seats, the construction and arrangement of the several parts admitting of the ready and convenient making of sleeping-couches, and the necessary changes for seats, with comparatively little expense and without permanent fixtures in the walls and roof of the car, and effecting a saving in dead weight.

In the accompanying drawings, Figure 1 represents an elevation of the interior of a sleeping-car, showing an upper and a lower berth of one section and the supports for the lower berths of the adjacent sections folded and stowed in positions for non-use; Fig. 2, a transverse section of the same; Fig. 3, a top view of the slatted bottom of the upper couch; and Fig. 4, a top view of the slatted bottom and supports of the lower berth.

The car is laid off in sections on both sides in the usual manner, and each section is divided by a partition, A, fixed between the chair-backs, rising to the top thereof and capped by a bar, B, extending the length of the seats. The chairs C are arranged with their backs D D² on each side of these partitions, and the seats E are made removable. One seat-back, D², in each pair of chairs C C is hinged to the partition-rail B in a manner to allow the back to be turned up and supported vertically upon said rail to form head and foot supports for the upper couch, which is composed of a bottom of elastic wood slats, F, hinged, as shown in Fig. 3, so as to be folded together. The couch-supporting edges of each seat-back are provided with metallic rests G, upon which the ends of the slats F are fitted when in position to form the couch, as shown in Figs. 1 and 3. Each rest G has a central rib, H, and the ends of the slats F of the adjacent sections are also supported upon said rests, with the abutting ends on the opposite sides of the rib H. When the upper couch is thus formed its hinged back-supports D² are maintained firmly in their vertical positions by slide-bolts I on the seat-backs fastening into the car-wall, as shown in Fig. 2, or in any suitable manner that will answer the purpose.

The metallic rests G for the slats F may be hinged, if desired, so that when the back D² is in position for use with the chair-seat D the rests G will fold like the leaves of a hinge, so as not to project and interfere with the position of the seat.

When the upper couch is not in use the slatted bottom F is folded together lengthwise and stowed away in a recess, F², in the car-wall and covered, as shown in Fig. 2. The outer slat has a guard, F¹, to form the outer rail of the couch.

In forming the lower couch the seat-bottoms

E are removed, and the couch is made upon a slatted bottom of two sections, K L. The end slats *a b*, as seen in Fig. 4, are secured upon rails M N of the chair-frames. The contiguous end rails *c d* of these slat-sections K L, when extended, meet in the space between the chair-arms, and their inner ends are supported upon an offset, P, upon the wall of the car, while their outer ends are supported upon rabbeted bars Q Q', hinged by their inner ends to rods *e* secured to the inner sides of the outer chair ends J. One or both of the outer ends of these bars Q Q' are provided with hinged legs R, which, when turned down upon the floor, sustain the bars Q Q' and the slatted bottoms K L, as seen in Fig. 1, which shows one leg as supporting both bars. These bars Q Q' are hinged within the inner outer corner of each chair, in order that they may be folded up parallel with the chair-backs, and against the fixed partitions A, so as to be out of the way when not in use, and to be turned out against the inner sides of the chair-arms J when required for use.

When the lower couch is not in use each slat-section K L is folded up and laid snugly upon the cross-beams M N, and against the partitions A; and the hinged bars Q Q', with their hinged leg-supports R, are also folded behind the seats in the spaces S behind the backs.

The slat-sections, being in two equal parts, K L, do not occupy much space when folded; and, in order to allow the hinged bars Q Q', when folded, to rest upon the slats, their pivot-rods *e* are long enough to permit the bars Q Q' to be raised thereon to clear the nest of slats, which thereby form rests for the bars, as shown in Fig. 1. In this way each slat-section and its hinged supporting-bar is gathered up in a small space, S, behind the seat-back, and in positions to be readily drawn out and laid for use between the seats.

The rabbets *f* of the bars Q Q' and the slats are on a level; and to obtain this the hinged ends of the bars fit into recesses *g* of the cross-bars M N of the chair-frame.

In forming the lower couch the hinged bars M N are first turned out upon their pivot-rods *e*, and let down over said rods upon their seats in the cross-frames M N, which thereby support the inner ends of the movable bars; and for this purpose the vertical adjustment of the bars serves to bring them in level positions with the slats. These slats are of elastic wood, and are held together by strips of canvas *h*, so that they may be easily folded and spread out.

The chair-backs D² are placed back to back,

and, as only one of each chair is required to be hinged, the other, D, is removable with the seat E, and is taken out in forming the lower couch.

In our plan two chairs form a single section, and the backs of these may be hinged to support the upper couch; or one hinged back of one section and the adjacent hinged back of another section may form the supports, as shown in the drawings.

Sheets are kept inside of the seats, and the blankets and bedding are stowed away in boxes under the seats.

Curtains are employed to partition the sections of the upper couches.

We are aware that boards have been hinged to be turned up on the seat-backs to form partitions for the lower couches; and this we do not claim, as such boards only close up the space between the lower couches, and require for the upper couch separate and distinct fixtures for its support.

Having described our invention, we claim—

1. The upper couch, made upon and supported wholly, and at both ends alike, upon the lower edges of the seat-backs, when turned up on edge and fixed as described.

2. The chair-backs D², hinged upon a fixed rest, in combination with the bolts I, for locking them to the car-wall in positions to maintain securely the upper couch, substantially as described.

3. The free sides of the hinged backs D², provided with metallic rests G H for supporting the slatted bottom F of the upper couch, substantially as described.

4. The pivoted bars Q Q', in combination with the slat-sections K L and the chairs C, constructed and arranged for adjustment essentially as described.

5. The lower slat-bottom, constructed of two separate sections, K L, each secured by one end only to the chair-frame, and adapted to be stowed away, each section alike, behind the chair-backs D D², substantially as described.

6. The pivoted supporting-bars Q Q' for the slat-sections, having both a vertical and horizontal adjustment, substantially as and for the purposes described.

7. The pivoted bars Q Q' for supporting the outer ends of the slat-sections, in combination with the wall-ledge P and the slat-sections K L, substantially as described.

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