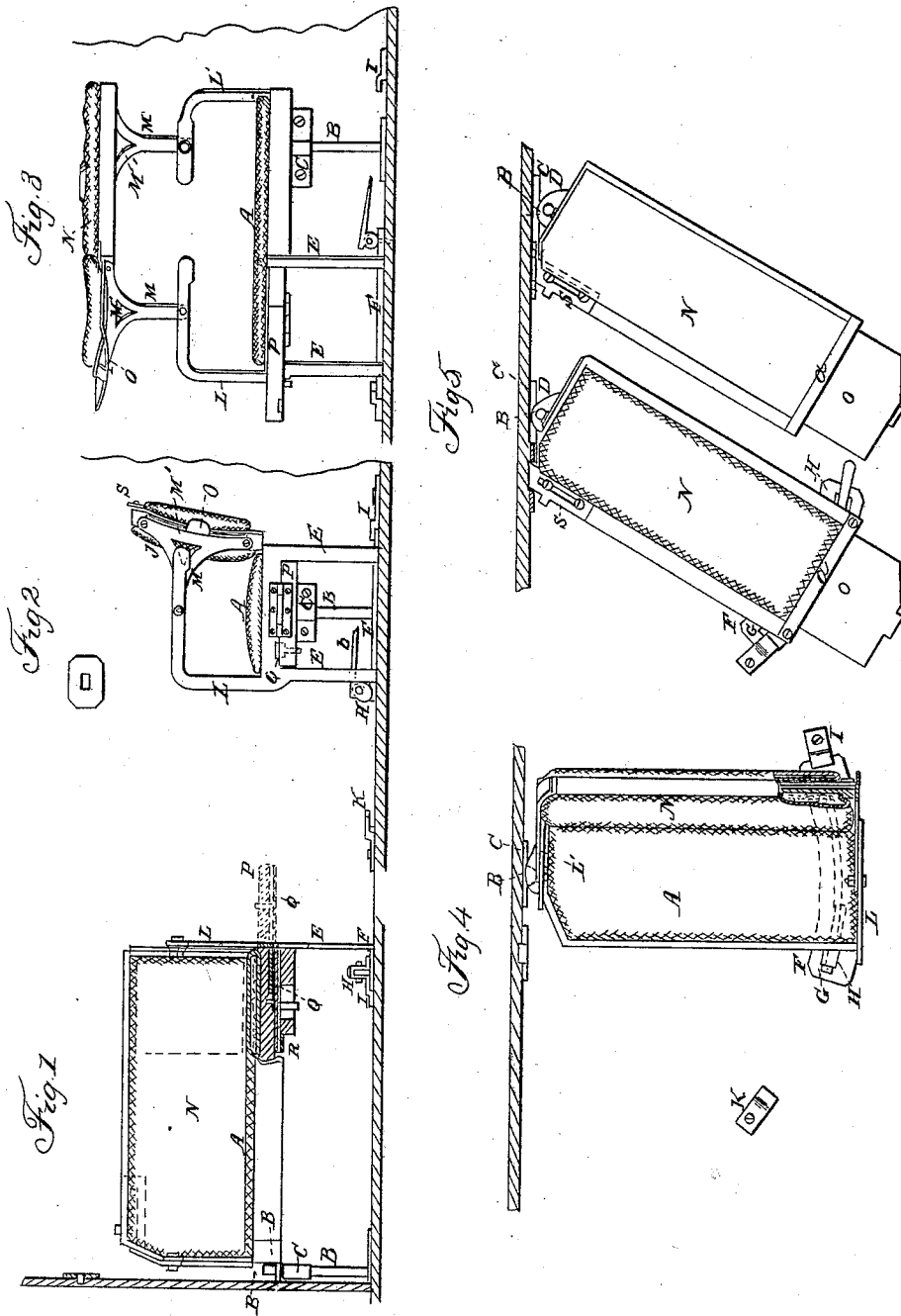


H. L. ARNOLD.
Car Seat and Couch.

No. 22,338.

Patented Dec. 21, 1858.



UNITED STATES PATENT OFFICE.

HORACE L. ARNOLD, OF ELK HORN, WISCONSIN.

CAR SEAT AND COUCH.

Specification of Letters Patent No. 22,338, dated December 21, 1858.

To all whom it may concern:

Be it known that I, HORACE L. ARNOLD, of Elk Horn, in the county of Walworth and State of Wisconsin, have invented a new and useful Improvement in Railroad Car-Seats by Which They Can be Converted into Sleeping Berths or Couches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification.

Figure 1, is a front elevation of a car seat constructed after the improved plan, in the position to be occupied by the passengers in a sitting posture. Fig. 2, is an end elevation of ditto, and a longitudinal section of a portion of the car in which it is arranged. Fig. 3, is a longitudinal section of the same portion of the car, and a view of the seat turned and converted into two sleeping couches, one above the other. Fig. 4, is a top or birdseye view of a car seat arranged to be sit upon. Fig. 5, is a top view of two seats turned and arranged as sleeping couches or berths.

Similar letters in the figures refer to corresponding parts.

The nature of this invention and improvement consists in, so constructing the car seats as to enable them to answer all the requirements of the ordinary reversible car seats, and at the same time allow them to be swung around or turned on a pivot at one end, in such a manner as to assume an angle of about 45 degrees with the passage-way through the car, and almost entirely occupy the space between them, and increase the space or passage way between their ends to such a degree, as to leave room in the passage way for an elongation of the seats when converted into sleeping berths or couches, to accommodate the length of the passengers, by turning up or inverting their backs, and extending the slides from their ends.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

The horizontal portion A, of the car seats, is supported at the end next the sides of the car by an upright rod or stud B, which rests in a metallic step in the floor of the car, and passes through a strap C, secured to the side of the same, and through an opening in a metallic plate D, projecting from the end of

the seat, which plate D, rests upon the upper curved edge of the strap C, and thus forms a support for this end of the seat, on which it can be turned to a diagonal position when desired. The opposite end of the seat is sustained by two upright bars or legs E, at each corner, secured at their lower ends to a horizontal plate F, having a slot G, of the form of a segment of a circle formed in it, which slot extends from near one end of said plate to near the other, on the arc of a circle scribed from the center of the stud or rod B, upon which the seat is turned.

A vertical standard is secured in the floor of the car, and passes up through a plate upon which the plate F, rests, and through the slot G, the upper end of which standard is embraced between the circular jaws of a clamp H, provided with a tangential handle *b*, and secured to the standard by a pin or bolt passing through the standard and jaws at a point eccentric with the peripheries of the latter, so as to enable their edges when turned to press upon the upper surface of the plate F, next the edges of the curved slot G, and thus clamp and secure the seat either at right angles to the sides of the car or at any desired diagonal line therefrom. When the seat is at right angles to the side of the car, the clamp H, is at one end of the slot G, and the opposite end of the plate is held in its place by the raised lip of a plate I, secured to the floor, under which it is passed. When the end of the seat next the passage way is swung or turned on the stud or rod B, to the diagonal position required to convert it into sleeping berths or couches, the eccentric clamp H, is situated at the opposite end of the slot G, to that at which it was when the seat was arranged at right angles to the passage way, and the other end of the plate F, is held firmly in its place by the raised lip of a metallic plate K, secured to the floor of the car in the same manner that its opposite end was held by the plate I. The end of the seat next the passage way, is provided with a curved right angled or elbow formed arm L, which extends upward from one corner, and thence extends horizontally the width of the seat, and parallel with the end of the same, so as to form a rest for the arms of the passengers, and the opposite end of the seat, next the side of the car, is provided with a somewhat similar

arm L', which extends upward from the opposite diagonal corner to that on which the first mentioned one is arranged, and like it, thence extends in the same manner about two thirds the width of the seat. To points of these arms midway between the edges of the seats are jointed, by suitable bolts, the ends of metallic bars M, extending from the center of curved bars M', the two combined resembling in form the letter T. These curved bars M', are secured to the ends of the backs N, of the seats in such relation to the sides and arms of the seats as to enable the said backs to be reversible, and to assume the proper angle of inclination with respect to the seat portion, to admit the passengers to sit upon them, fronting either end of the car, as in the ordinary car seat. The backs N, are curved and cushioned on their surfaces to correspond with the curved form of the back of a person when in a reclining position, and to form a more comfortable depression for a person to lie in when sleeping, and this method of attachment also enables the said backs to be raised to a horizontal position, immediately above the seat portion, with the bars in an upright position to support them. When it is desired to convert the parts of the seat into two distinct sleeping berths or couches, for the accommodation of the two passengers for whom the said seat is designed.

Between the back curved surface of the portion of the back frame of the seat, next the passage way through the car, and a corresponding curved bar a, secured to the end of the said frame, is placed a similarly curved slide O, having a raised lip or flange at one end, which serves as a means for drawing it out from, and forcing it within its inclosure, and as a rest for the feet. To the end of the frame of the seat portion A, is hinged an extension frame or plate P, of metal or other material, which is capable of being turned under the seat, when it is not intended to use the same as a sleeping couch or berth, and there secured in a horizontal position out of the way by a sliding bolt Q, moving in guides in the extension frame or plate P, and passing through a hasp R, secured to the bottom of the seat frame as represented in Fig. 1, and this sliding bolt Q, is the same length as the extent of the frame or plate P, and when the latter is brought to a horizontal position, on a line with the seat portion A, it can be secured by forcing the sliding bolt Q, into a mortise formed in the end of the seat as represented by red lines in Fig. 1.

Another slide in every way similar to the one just mentioned, may be placed below the cushion of the frame of the seat portion of the car seat, which slide may move between a guide bar and plate, and the said

frame, and may be provided at its end with a stop pin, similar to the stop pin on the end of the curved slide O, and this slide, like the slide O, may be clipped at one of its corners so as to cause the clipped edge when the seats are swung to the diagonal position to adapt them to sleeping berths or couches, to come parallel with the corresponding edge of the slide O, of the seat directly opposite.

When it is desired to occupy the seats in a sitting posture, they are brought at right angles to the passage way and sides of the car, as represented in Figs. 1, 2, and 4 and are secured in precisely the same relation to each other, and to the passage way as the ordinary reversible seats by the raised lips or edges of the plates I, under which one end of the slotted plates F, are brought, while the opposite ends of said plates F, are firmly embraced under the eccentric edges of the lever clamps H.

In the event of it being desired to convert the seats into sleeping couches or berths, the handles of the lever clamps H, are raised and turned so as to release the plates F, from the pressure of the eccentric edges, of the same, and the ends of the seats next the passage way are swung or turned around on the studs or rods B, until they "lap" or assume the proper angles in relation to the sides of the car, to occupy or nearly occupy the entire spaces respectively between them longitudinally, with the end of the plate F, under the lip or raised end of the plate K, when the opposite end is firmly secured by the lever clamp H. The backs N, of the seats are then inverted to the position represented in Fig. 3, and the sliding catches or bolts S, fastened on top of the back frames, are forced into the slots or mortises in the sides of the car, or in plates secured to the same, and the frame or plate P, is secured in a horizontal position, beyond the ends of the lower portions A, of the seats, and the slides Q, drawn outward from their cavities above the frames of the backs N, to give the necessary elongation to these parts respectively to convert them into distinct and comfortable sleeping berths or couches.

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

1. Jointing the ends of the seats, next the sides of the car, to a stud or bolt B, so as to enable them to be arranged at right angles to the sides of the car, or to be swung around or turned to a diagonal position, and to thus occupy the spaces between them longitudinally and increase the width of the passage way, and thus admit of their elongation to convert them into distinct sleeping berths or couches, as set forth.

2. I claim the combination of the slotted

bar F, eccentric lever clamp H, and plates I, K, with lips or raised edges, for firmly fastening the seats in the required position to answer their designs, as before described.

5 3. I also claim the combination of the slides O, or their equivalents, and the T-shaped bars M, M', for sustaining the backs

N, of the seats in an inverted position, and bolts or slides S, for securing the backs in their said inverted position, as described.

HORACE L. ARNOLD.

Witnesses:

JENNETTE HENDERSON,
MARY H. HOLLEY.