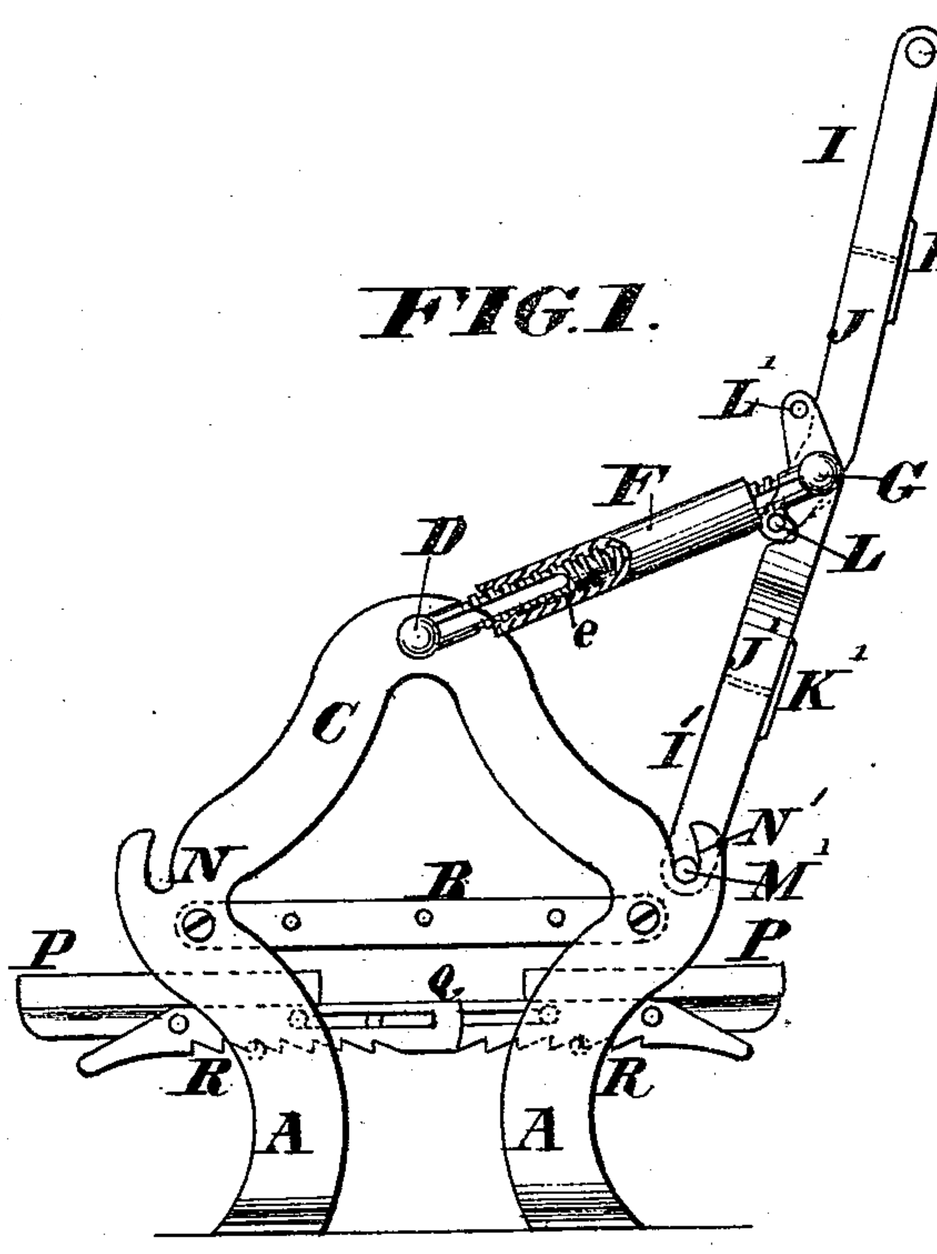
N. N. HORTON.

Railway Car-Seats.

No. 166,875. Patented Aug. 17, 1875.

FIG. 1.



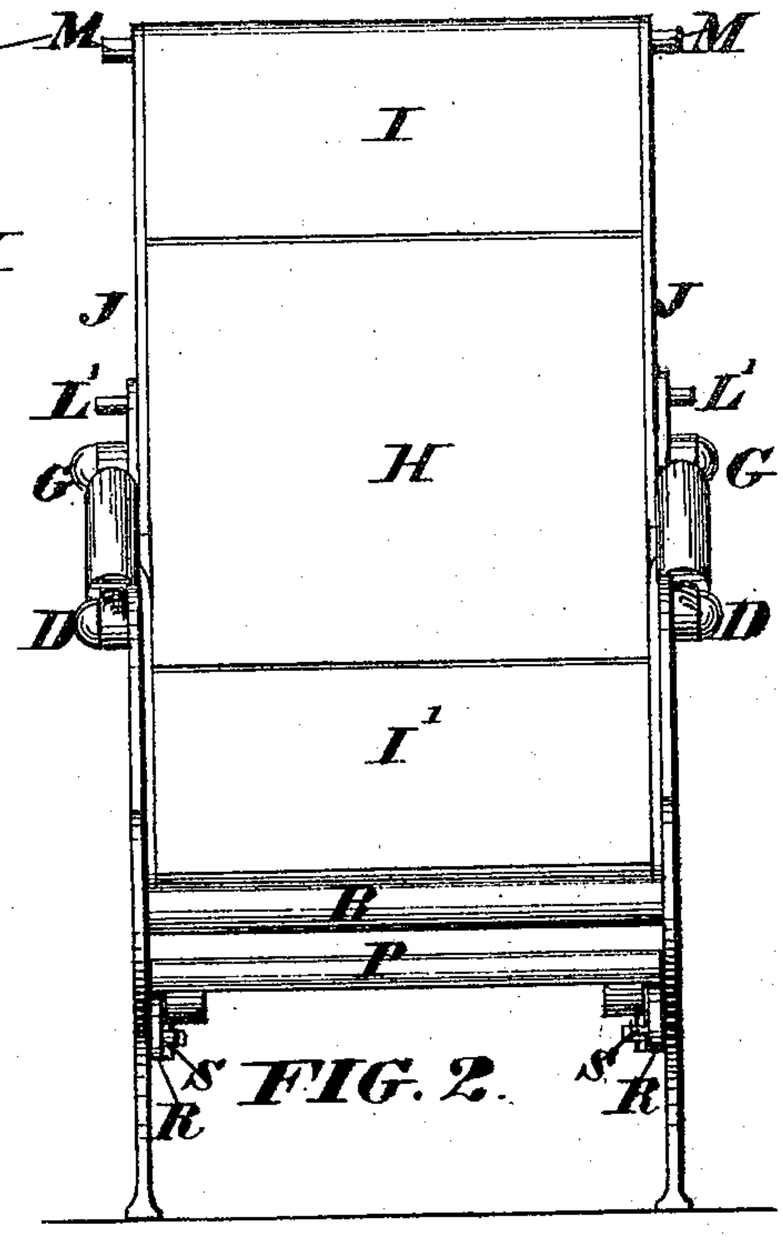


FIG. 2.

FIG. 4

FIG. 3.

WITNESSES.

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NUMON N. HORTON, OF KANSAS CITY, MISSOURI.

IMPROVEMENT IN RAILWAY-CAR SEATS.

Specification forming part of Letters Patent No. **166,875**, dated August 17, 1875; application filed December 1, 1874.

To all whom it may concern:

Be it known that I, NUMON N. HORTON, of Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Railway-Car Seats, of which the following is a specification:

My invention relates to car-seats with adjustable backs and head-rests, to adapt them for use as day-chairs or as reclining-chairs for sleeping. My improvements consist, first, in supporting the back adjustably by means of stays formed with screw threads and nuts, which may be operated by turning in either direction, so as to raise or lower the back, as required. The improvements consist, secondly, in constructing the stays with slots adapted to slide freely upon their supporting pins or studs, in order to permit the temporary elevation of the chair-back, and to facilitate reversing, as hereinafter described. The improvements further consist in pivoting the central section of the back to the ends of the stays, and pivoting to the same centers, through the medium of attaching-arms, supplemental sections, which respectively constitute, one a portion of the back, and the other a head-rest, as the reversible seat-back is presented in either direction. The improvements further consist in constructing a head-rest with pivoted arms, resting by lugs against the under sides or edges of the back-stays, in such a manner as to effect an automatic adjustment of the head-rest, adapting it to serve as a pillow when the back is lowered into position for reclining.

In the accompanying drawing, Figure 1 is a side elevation of my improved car-seat, showing the back in its elevated position as adapted for day use. Fig. 2 is a front view of the same. 'Fig. 3 is a side elevation, showing the back partially lowered for reclining, and representing it reversed in dotted lines. Fig. 4 is a detached view illustrating a modification in construction of the stay-arms.

The supporting-lugs A, seat-bottom B, and arms C may be of any usual or suitable construction. At the upper central part of the arm C are studs D, forming pivots for the attachment of stays E E′ F, the extremities of which are pivoted by studs G to the central section H of the seat-back. The end members E E′ of the stays are further provided with slots *e*, which adapt them to slide freely upon the studs D and G, so as to permit the back to be elevated or thrown forward instantly, either in the act of reversing it or to permit a passenger to enter a seat behind. The stays are constructed, as before stated, each of three members, the end members E E′ having right and left screw-threads, and the central member F being correspondingly threaded to work upon or within the end sections E E′. The central section F either constitutes a double nut working upon the threaded members E E′, as illustrated in Figs. 1 and 3, or the end members E E′ constitute nuts, within which a central section with right and left screw-threads may work, as in the modification shown in Fig. 4. In the latter case I prefer to inclose the right-and-left-threaded bolt F in a barrel, *f*, (represented in section in Fig. 4,) so as to conceal the screws and provide a suitable arm-rest, as in the form of the invention shown in Figs. 1 and 3. At each extremity of the central section H of the seat-back is a head-rest, I I′, each of which head-rests is rigidly attached to a pair of arms, J J J′ J′, which are independently pivoted to the same central studs G on which the central section H turns.

Stops K, fastened to the back of the central section H, and projecting beyond its extremities, prevent it turning on its pivots beyond the plane of the head-rest, which, for the time being, constitutes the lower section of the back. Said stops do not interfere with the movement of the head-rests upon the common pivots G. The arms J J′, by which the head-rests I are pivoted to the studs G, are carried beyond the said studs in the form of rigid elbows *j*, which partially cross the arms J or J′ of the other head-rest, and are provided with studs or lugs L L′, projecting outward from the extremities of the elbow *j*. These lugs, by engaging beneath the stays E′, in either position of the seat-back, form stops limiting the depression of the head-rest. The lugs L′ of the inner arms J′, being made to cross the outer arms J, constitute stops to limit the forward movement of the head-rest, which is, for the time being, the upper one relatively to the lower one, which constitutes a part of the seat-

back, as hereinafter described. At the outer edges of the head-rests are studs M M′, which rest in notches or sockets N or N′ in the rigid arms of the seat. The foot-rest consists essentially of a board or plate, P, pivoted to sliding bars Q, which are formed with longitudinal slots *q* and ratchet-teeth R, the slots *q* adapting the bars to slide forward and backward upon studs *s*, provided for this purpose on the inner faces of the seat-lugs A. The ratchet-teeth R rest upon similar studs S, suitably placed slightly below and in advance of the studs *s*, so as to receive the said teeth and hold the foot-rest firmly against a backward pressure when it is depressed, but permit it to be drawn out, or, when slightly elevated, to be slid inward as far as desired.

The operation of my invention is as follows: Figs. 1 and 2 show the seat-back in suitable position for day use, the studs M′ resting in the sockets N′, the back being only slightly inclined, and the two head-rests I and I′ in nearly the same plane as the central section H. In this position the upper head-rest I is held by its lugs L in the plane of the back, or nearly so, while the stop K′ at the lower edge of the central section rests against the upper part of the lower head-rest I′, which is rigidly held by its studs M′ resting in the sockets N′. If it be desired to lower the back into position for reclining to any extent, the nuts F are turned simultaneously on both sides of the seat, so as to elongate the stays E E′ F. By this elongation the back is lowered, turning upon the pivots M′, and reducing the angles between the stays E E′ F and the arms J′, by which the lower head-rest I′, which, in this position, constitutes a part of the back, is connected to the extremities of the stays E′. The more this angle is reduced by the lowering of the plane of the back, the more the upper head-rest I will be thrown forward by the bearing of its studs L beneath the stays E′. The result is that a convenient pillow is provided, which is automatically adjusted to a relative projection suited to the inclination of the seat-back. Fig. 3 shows the back partially lowered, so as to support the passenger in a half-reclining posture, and the head-rest I correspondingly thrown forward. If, now, it be desired to reverse the back to the opposite position, (illustrated in dotted lines in Fig. 3,) the slots *e*, permitting the stays E E′ to slide upon their studs D G, enable the back to be quickly thrown forward in the act of elevating it. The head-rest I, now assuming the lowermost position, and resting by its studs M in the sockets N, assumes the same plane as the central section H, constituting, in fact, a part of the back, while the other head-rest, I′, is brought forward of the plane of the back, in proper position for use.

The following is claimed as new:

1. The stays E E′ F, formed with screw-threads for adjusting the back, in the manner substantially as described.

2. The stays E E′ F, constructed with screw-threads for adjusting the seat-back, and with a slot at each end sliding on studs on the seat arm and back, respectively, for the purposes set forth.

3. The combination of the pivoted central section H, the two end sections I I′, arms J J′, and the stops K K′, as described, whereby the lower section is held in line with the central section, as explained.

4. The head-rest I and arms J, pivoted at the axis of the back H, and provided with stops L, to engage beneath the stays F, as set forth.

N. N. HORTON.

Witnesses:

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WALTER ALLEN.