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Railroad Car.

No. 2,530.
33,534.

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Witnesses:
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UNITED STATES PATENT OFFICE.

CHANDLER McWAYNE, OF SACRAMENTO, CALIFORNIA.

IMPROVEMENT IN RAILROADS AND CARS.

Specification forming part of Letters Patent No. **33,534**, dated October 22, 1861.

To all whom it may concern:

Be it known that I, CHANDLER McWAYNE, of Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Railroads and Cars Pertaining Thereto; 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 a part of this specification, in which—

Figure 1 is a transverse vertical section of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a transverse vertical section of the same, taken in the line *y y*, Fig. 1. Fig. 3 is a detached plan or top view of a clutch pertaining to the same. Fig. 4 is a longitudinal vertical section of Fig. 3, taken in the line *z z*, Figs. 1 and 3. Fig. 5 is a detached sectional view of Figs. 3 and 4, taken in the line *z z*, Fig. 4.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to construct a railroad with a single elevated rail and have a car placed or suspended thereon arranged and constructed in such a manner that it may be readily balanced on the single rail however unequally passengers or freight may be disposed in the car, provision being also made for keeping the car in a proper horizontal position while being loaded and unloaded, and certain means employed for enabling the locomotive and train to pass up heavy grades with facility.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an elevated rail, which may be of any of the usual forms, and supported by uprights *a* at any suitable distance from the surface of the ground—say about five (5) feet—in order to admit of about two (2) feet space between the bottom of the car B and the surface of the ground. The car B may be of quadrilateral form, with seats C at its sides, the seats being inclosed at each side by inner partitions *a a* to admit of a central opening *b*, in which the running-gear is placed. The running-gear is formed of two pairs of wheels *c c*, each pair being placed on a frame D, which works on a central pivot E. The wheels *c* have grooved or concave peripheries to fit over both sides of the rail A, which has a semicircular surface in its transverse section, as shown in Fig. 1. The frames D D of the wheels are between longitudinal bars *d d* at the top of inclined supports *e*, the bars *d d* being about midway between the top and bottom of the car. The principal portion of the weight of the car is, however, below the wheels *c*, the portion above the wheels being made as light as possible.

F F represent two inclined troughs, which are connected at their upper ends and extend down at opposite sides of the running-gear of the car to the bottom of its sides, as shown clearly in Fig. 1.

On the upper part of the car there is placed centrally a windlass G, to which a chain or rope H is attached, said chain or rope having a weight in the form of a roller I, secured to it. This weight I may, by means of the windlass G, be adjusted higher or lower in either trough F, and the car perfectly balanced on the rail A.

The seats C at each side of the car are suspended on rods *f*, which pass through vertical upright segment-plates J J, which are allowed to work or rock on the bottom of the car for the purpose of adjusting the seats C laterally in the car. The seats being suspended on the rods *f*, are of course allowed to adjust themselves or swing to conform to the motion or position of the passengers without at all affecting the equilibrium of the car on rail A.

In order to insure in all cases the perfect balancing of the car on rail A, the seats C may be adjusted laterally by moving the segment-plates J, as above alluded to. This movement of the plates J is effected by having the rods *f* pass through the plates J and into bars K, the upper ends of which are suspended on pins *g* in the car. The bars K extend down through slots *h* in the bottom of the car, and the two bars K at each side of the car are connected by a horizontal bar L. The bars L have each a lever M, attached at one end, and the upper ends of these levers are connected by a bar N.

To the bar N ropes or chains O O are attached, said ropes or chains passing one through the central opening *b* of the car and connected to levers P, which may be retained at any point in their movement by a pawl *i*

and segment-rack *j*. By moving the levers P the bar N will be actuated, and consequently the levers M and bars L and K, the latter turning or shifting the segment-plates J, and consequently changing the position of the seats C either to the right or left, as may be desired, one lever P on being actuated moving the seats to the right and the other to the left, the seats at both sides of the car, it will be understood, being moved simultaneously in the same direction. By this arrangement the car may be kept in a state of equipoise with the greatest facility.

To the under part of the car B, at each side, there is a bar Q. These bars are each attached by joints or pivots *k* to parallel arms *l l*, which are secured to the under side of the car by pivots or joints *m*. Each bar Q has a rope or chain R attached, and these ropes or chains pass up through the car and are secured to pins *n* at one end of it. By lowering the bars Q when the car is at rest the car will be retained in a perfectly horizontal position and passengers and freight may be taken in or out of the car without tilting it, the car before starting being balanced by adjusting the weight I and seats C, either or both, as previously described. The bars Q, it will be understood, are raised previous to the starting of the car.

At the front end of the locomotive of a train there are secured by bolts or pivots *a** two jaws *o o*, in each of which a wheel S is placed horizontally. These wheels are at opposite sides of the rail A and in line with it, and said wheels may be made to clutch the rail when driven by actuating a lever T, which is connected by a link U with a toggle V, the ends of which are attached by pivots *p p* to arms W W, which are at the upper ends of rods X, passing on through the outer part of each jaw *o*, and having each a small arm *q* attached at their lower ends, the arms *q* being connected to the ends of a rod X′. By causing the wheels S S to grasp or clutch the rail the locomotive is enabled to draw a train up heavy grades without difficulty, it being understood that the driving power is applied to the wheels S. By this arrangement the great expense of grading attending the construction of ordinary railroads is avoided, and it is believed that many of the accidents attending traveling on ordinary roads—such as the cars being thrown from the track, &c.—will be avoided.

I would remark that the locomotive is placed or suspended on the elevated rail A substantially in the same way as the car.

I do not claim, broadly or separately, an elevated rail for railroads, for it has been previously proposed if not used; but

I do claim as new and desire to secure by Letters Patent—

1. The elevated rail A when used in connection with a car B, placed or suspended thereon in a state of equipoise, substantially as and for the purpose set forth.

2. The suspending of the seats C in the car B from segment-plates J, connected with bars K L, which are actuated through the medium of the levers M P for the purpose of adjusting the seats laterally when required for balancing the car on the rail.

3. The employment or use of the weight I, attached to windlass G on the top of the car, in combination with the inclined troughs F F, placed in the car, all arranged for the purpose of balancing the car on the rail.

4. The adjustable bars Q Q, placed one at each side of the car B, and arranged, as shown, for the purpose of sustaining the car when stationary in a horizontal position, as set forth.

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Witnesses:
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