J. STEPHENSON.

Street Car.

No. 45,281. Patented Nov. 29, 1864.

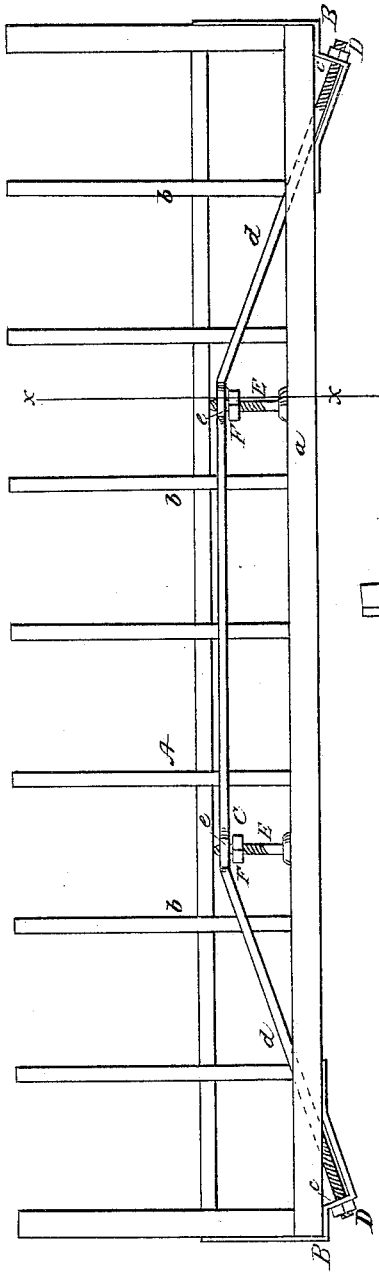

Fig. 1.

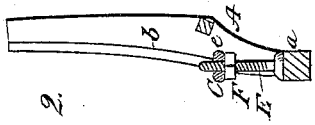

Fig. 2.

Witnesses:

Gustave Dietrich

Henry Mevius

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

IMPROVED STREET-RAILWAY CAR.

Specification forming part of Letters Patent No. 45,281, dated November 29, 1864.

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of Cars for Street-Railways; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a transverse vertical section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate like parts.

This invention relates to a new and useful improvement in the construction of cars for street-railways, commonly termed "horse-cars;" and it consists in a means employed for bracing the bodies of the cars by which the permanent form of the car is maintained and its durability greatly promoted. The bodies of these cars are supported on two axles, necessarily located near the center of the body, and the tendency of the overhanging ends is to droop, distorting the form and diminishing the strength of the structure. To prevent this, various methods have been adopted, among which is the truss or arc rod, fastened at the ends and strained taut by studs with adjusting-screws located over each axle. This plan has not been successful, because the methods of securing the ends of the rods have been insufficient—a difficulty fully obviated by my invention.

A represents one side of the frame of a car-body, *a* being the sill and *b* the ribs thereof. To each lower corner of the car-body, at its exterior, I attach an iron abutment, B, which conforms to the faces of the angles to which it is secured. These abutments have a downward projection, *c*, the face sides of which are at right angles with the ends of the truss-rod C. (Shown clearly in Fig. 1.) The truss-rods C, one of which is shown, has its ends *d d* passing through holes in the sill *a*, the truss-rods being within the car, the ends *d d* of the truss-rod also passing through the faces of the projections *c* of the abutments B, and having a screw-nut D on each end. Over each axle of the car and in line with each truss-rod C there are located iron studs E E, the lower ends of which enter the sills *a* to preserve steadiness. The upper end of each stud has a screw-thread upon it, and they pass through perforated bosses *e e* in the truss-rod, each stud being provided with a nut, F, under the truss-rod.

It will be seen that, while the truss-rods are thus secured at the ends, elevating the nuts F on the studs will raise or support the ends of the car-body. By this arrangement the ends of the car-body are effectually prevented from drooping.

I do not claim, broadly, the truss-rod, nor the studs; but

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

1. The employment or use of the iron or other metal abutments B, applied to the car and constructed in such a manner that the ends of the truss-rods may pass through them and be firmly secured therein, substantially as set forth.

2. The passing of the truss-rods C through the sills *a* of the car below their under sides, substantially as described.

3. The combination of the truss-rods with the abutments and studs, all arranged and applied as and for the purpose set forth.

JOHN STEPHENSON.

Witnesses:

C. L. TOPLIFF,

WM. TREURN.