

(No Model.)

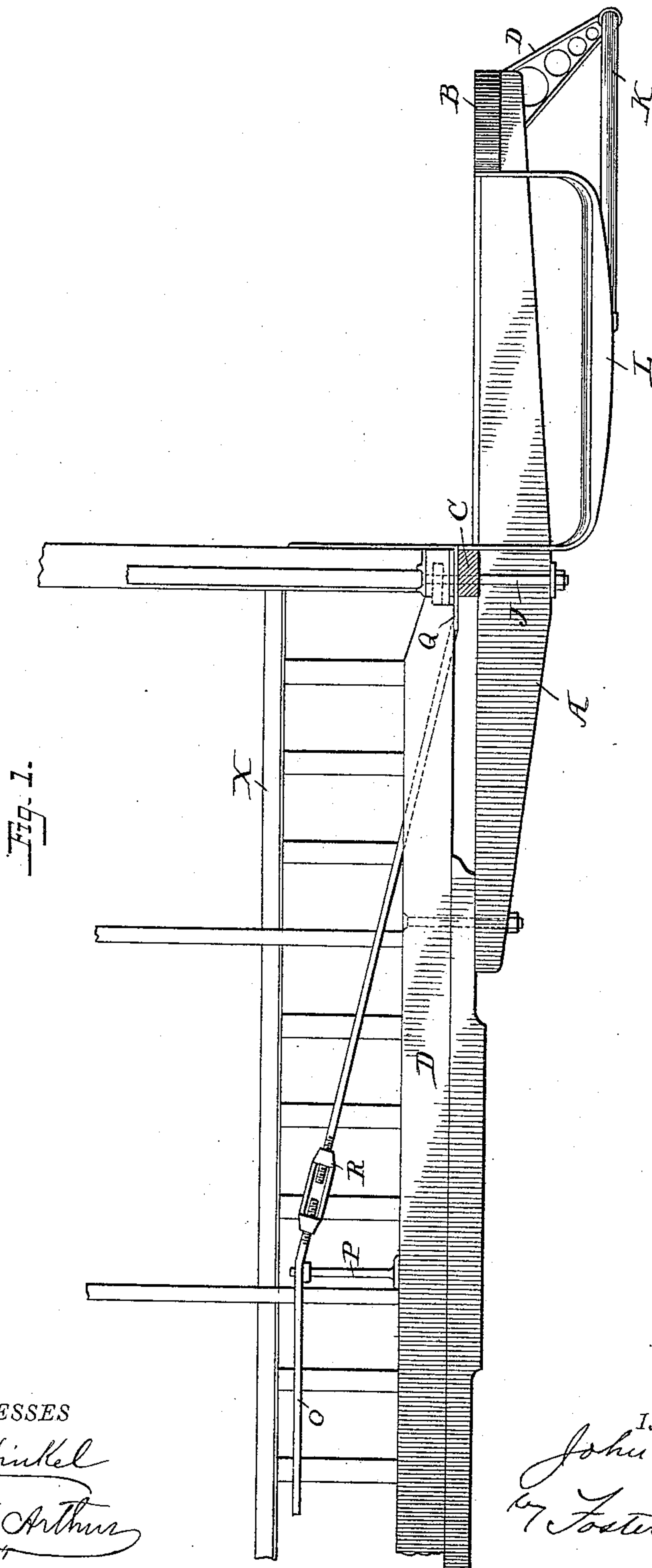
2 Sheets—Sheet 1.

J. STEPHENSON.

PLATFORM SUPPORT FOR TRAM CARS.

No. 442,745.

Patented Dec. 16, 1890.



WITNESSES

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INVENTOR

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Fig. 2.

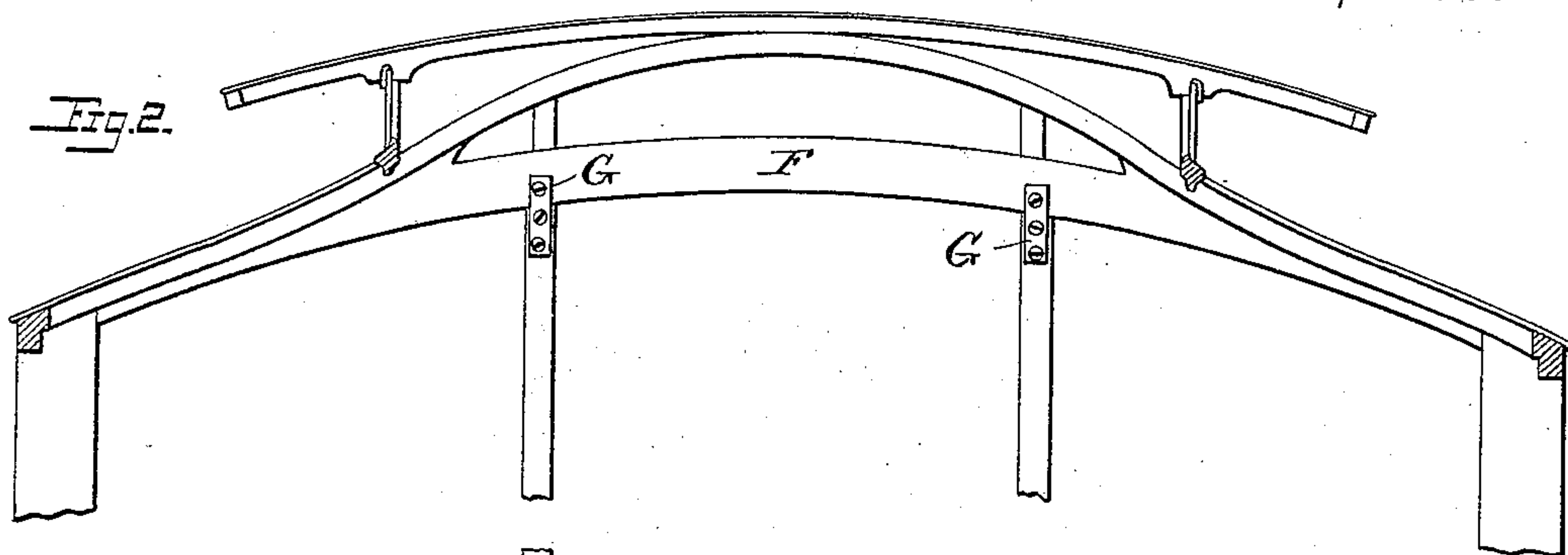
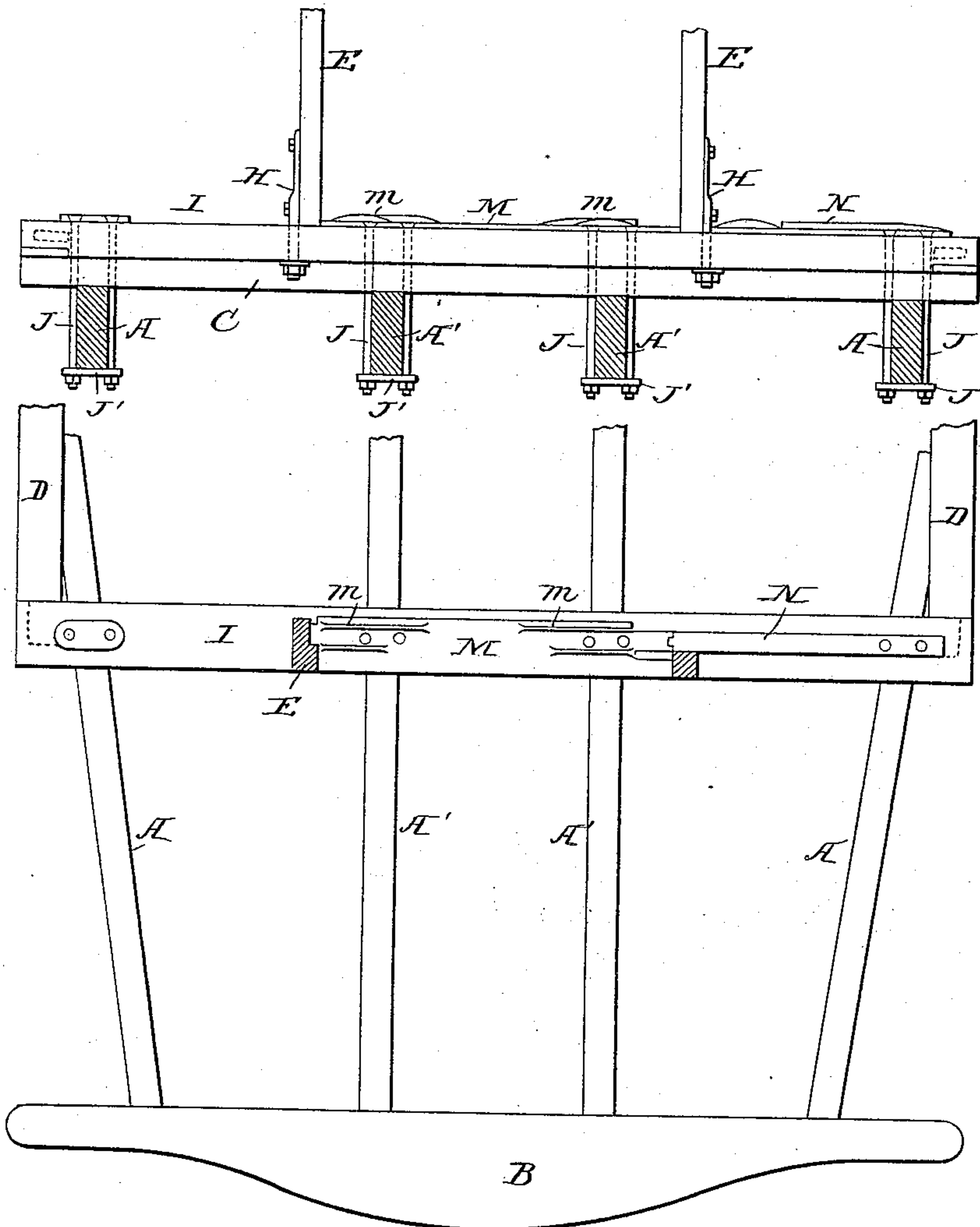


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

PLATFORM-SUPPORT FOR TRAM-CARS.

SPECIFICATION forming part of Letters Patent No. 442,745, dated December 16, 1890.

Application filed October 6, 1890. Serial No. 367,161. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Tram-Car-Platform Supports, of which the following is a specification.

It has become part of modern tramway practice to have car-platforms of extreme size—*i. e.*, limited only by the liability of the car to tilt on its wheel-base. These large platforms when crowded with passengers cause severe strain on the car-body, which has of late been increased by the use of horse-guards, usually an iron pipe in the form of a bow outside the car-platform and extending from the car-step at one side to the step at the other side of the car. Though these guards are not intended for use of passengers, it has come into practice that when the cars and platforms are full passengers will stand on the horse-guards and hold to the dash-rail. This extreme service has proved too much for the ordinary method of connecting the platform with the car, so that the platform-suspension bolts, which pass down through the end sills of the car-body, sometimes split and fracture the end sills by the bolt-heads being pulled down into and through these timbers. To overcome these objections is the object of my invention, which consists in a construction and arrangement of parts substantially as hereinafter specified, whereby I provide improved tram-car-platform supports.

In the accompanying drawings, Figure 1 is a side view, partly in section, showing supports of a car-body with its platform attached to illustrate my present invention. Fig. 2 is a cross-section showing the cross floor-timbers with the arched-end top rail of the roof of a car, and Fig. 3 is a plan view showing the end sills and platform-bearers.

The platforms have usually four bearers A A', each extending from the platform nose-piece B to the first cross floor-timber beyond the end body-sill C, to which first cross floor-timber the inner ends of the two central platform-bearers A' are attached, having an upward pressure on the bearer ends counteracting the weight of the platform. The side platform-bearers A A are spread at their back ends to reach the side sills D of the car-body, to

which the bearer-sills are secured. It is evident in this construction that the end sills C of the car-body not only sustain the platforms with their loads, but the service is double the pressure on the platforms. As the platforms have their supports from the end sills C of the car-body, the tendency is to deflect those sills and break the fastenings of the door standing pillars E at the top and bottom, and also for the sill ends to split downward their mortises in the ends of the car-body side sills D.

To secure the sills from deflection at their central part, each door standing pillar E is connected at its top end with the arched-end top rail F by framing-joints re-enforced with metal plates G, and at the bottom ends each standing pillar is framed into the end sills and the joint re-enforced by strap-bolt H or other well-known means.

The end sills C have their ends framed into the side sills D, with liability to split down the mortises, which is now prevented by extending the end sill-plates I over and onto the side sills.

The platform-bearers are supported each between two bolts J J, passing down through the sill-plates I and sills C, and through coupling-plates J', on which the platform-bearers A A' rest, and suspended from the nose-piece B on the platform are brackets B', which sustain the middle portion of the horse-guards K, the ends being secured to the sidesteps L, carried by the nose-piece of the platform, and all carried by the end sills of the car-body.

The bolts J are provided with countersunk heads fitting into and supported by the door-sill plate M, which is strengthened by rising flanges *m*, rising above the surface of the plate, except at the footway in the middle part of the doorway. The door-sill plate has its central part a level plane, and at each side of such central part there are rising flanges *m*, which form guides for the sliding door and strengthen the sill. These sill-plates may be extended beyond the end sills onto the side sills D, as shown at N, by which plates the side sills assist the end sills in carrying the platform-supporting bolts, and also prevent the carrying-bolts from being drawn down into and splitting the end sills.

The end of the car-body is prepared for carrying the platform with its burden by a metal

truss above each side sill D and under the seat X, and each truss is formed by a rod O, resting on two queen-posts P, from which each half descends and passes slantingly down through the sill D near its end, and under the sill the rod assumes a plate form Q, continuing to and up the corner of the body, and there is connected to the corner-pillar of the car. The rod between the queen-posts or other convenient place is severed, the two ends being united by a turn-buckle R, adjusting the tension of the truss.

Without limiting myself to the precise construction and arrangements of parts shown, I claim—

1. A car with its door-sill plate having platform-supporting bolts passing down through the plate and the car-body end sill, beneath which sill are the platform-bearers, each between two bolts and resting on a coupling-plate through which pass the bolts with screw-nuts on their lower ends, substantially as described.

2. A car with its door-sill plate having bolts carrying the platform-bearers and the plates at the bolt-holes strengthened by rising flanges, between which are the bolt-holes, substantially as described.

3. A car with door-sill plate having countersunk headed bolts carrying the platform-bearers, and with strengthened flanges rising above the surface of the plate, except at the footway in the middle part of the doorway, substantially as described.

4. A car having a door-sill plate with its central part a level plane, and at each side of such central part rising flanges forming guides for the sliding door, substantially as described.

5. A car with a door-sill plate holding the bolts suspending the central bearers of the platform, and the ends of the sill plate or added plates extending beyond the end sills and onto the side sills, by which plates the side sills assist the end sills in carrying the platform-supporting bolt and also prevent the carrying-bolt from being drawn down into and splitting the end sills, substantially as described.

6. A car with its door-sill plates holding bolts suspending the end platforms beneath the end sills of the car-body, the platforms having horse-guards in their fronts below

and suspended to the platforms, and the standing door-pillars framed into the end sills and end top rails, with the joints re-enforced by strap-bolts or joint-plates or equivalents, substantially as described.

7. A car with its door-sill plates holding bolts suspending the central two platform-bearers and the outside two platform-bearers with their ends under the car secured to the side sills of the car-body, substantially as described.

8. A car having on the upper surface of its end sills metal plates extending beyond the sill ends and onto the side sills, the plates having bolts passing down through the end sills, below which the bolts suspend the outer two platform-bearers with their inner ends secured to the side sills of the car-body, substantially as described.

9. A car having door-sill plates with bolts holding in suspension the platform-bearers, and the door standing pillars framed into the end sills and into the end top rails of the body, and the framing-joints of those pillars re-enforced by strap-bolts or metal plates or equivalents, substantially as described.

10. A car having on the upper surface of its end sills metal plates with bolts extending down through the end sills and holding in suspension the platform-bearers with their platform assisting to hold horse-guards around and below the level of the platforms, substantially as described.

11. A tram-car having its end platform carried by bolts passing through flanged plates on the upper side of its end sills and the ends of the body sustained by trusses under the car-seats, the truss-rods being anchored by plates under the sill ends and terminating on the endward faces of the corner-pillars, substantially as described.

12. A car having its platform supported by bearers suspended by bolts through sill-plates and sill and the outside bearers spread at their inner ends and secured to the side sills of the car-body, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:

JOSEPH B. STEPHENSON,
S. A. STEPHENSON.