(No Model.)

2 Sheets—Sheet 1.

F. E. CANDA.

GONDOLA CAR.

No. 453,900. Patented June 9, 1891.

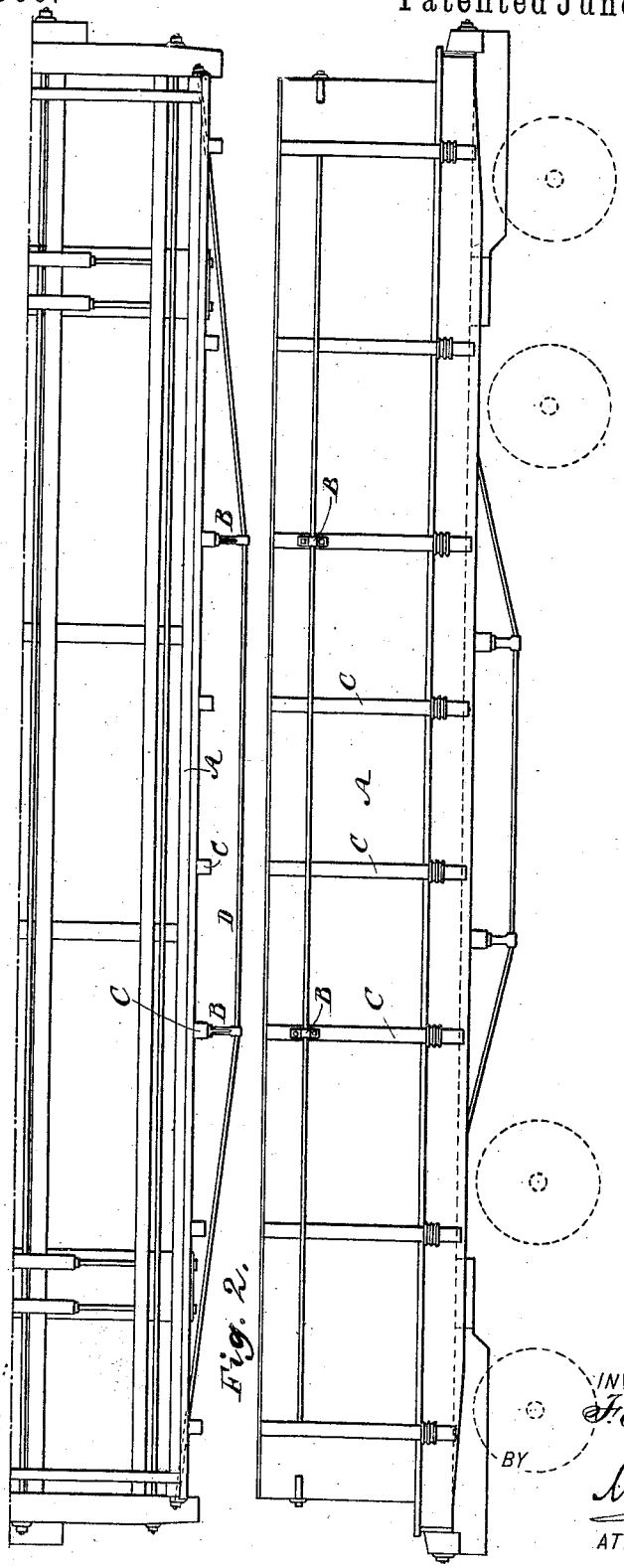

Fig. 1.

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

F. E. CANDA.

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Fig. 3.

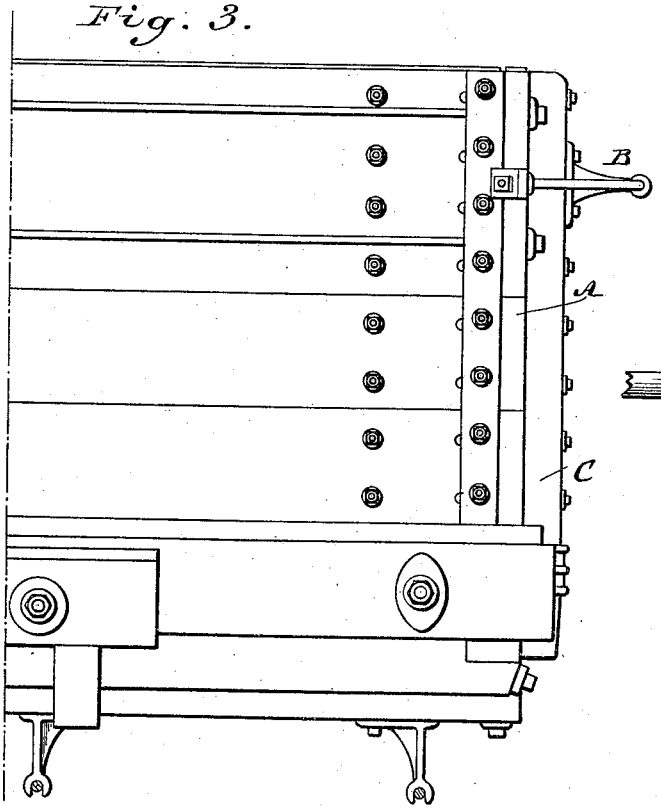


Fig. 4.

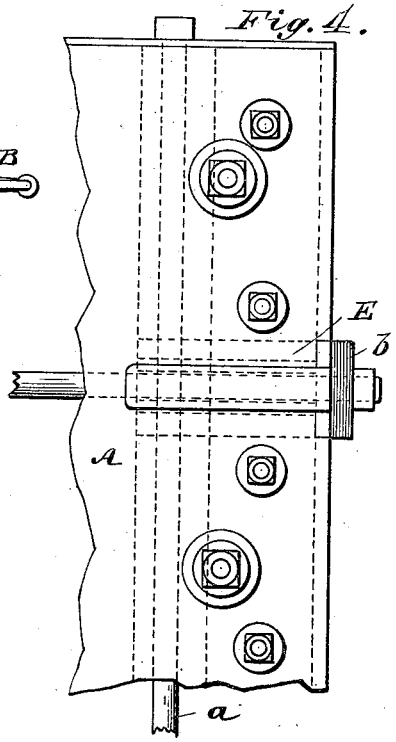


Fig. 5.

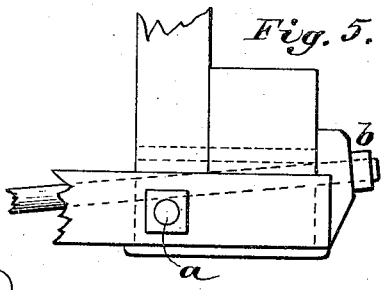
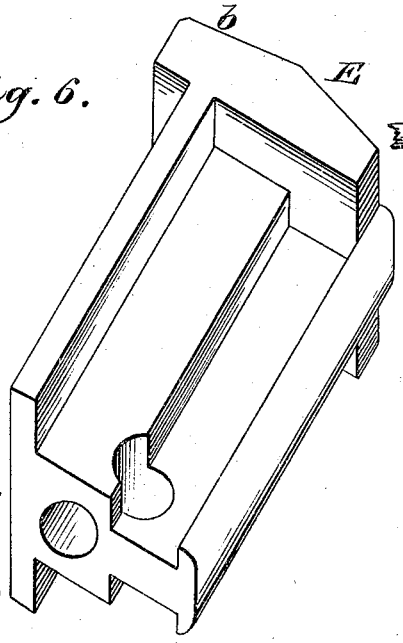


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FERDINAND E. CANDA, OF NEW YORK, N. Y.

GONDOLA-CAR.

SPECIFICATION forming part of Letters Patent No. 453,900, dated June 9, 1891.

Application filed June 6, 1890. Serial No. 354,457. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND E. CANDA, of New York city, in the county and State of New York, have invented a new and Improved Gondola-Car, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a sectional plan view of a car-body to which my improvement has been applied. Fig. 2 is a side elevation. Fig. 3 is a sectional end elevation. Fig. 4 is an enlarged detail view of the anchor-block and the side truss. Fig. 5 is a plan view of the same, and Fig. 6 is a perspective view of the anchor-block for the side truss.

Similar letters of reference indicate corresponding parts in all the views.

The carrying capacity of gondola-cars has been recently so increased on many roads that it has become necessary to increase the length of the cars and to raise the height of the side and end boards in order to furnish the requisite carrying capacity. The effect of such increase in the height of the side-boards has increased the leverage on the stakes and stake-pockets to such an extent that when the car is loaded it spreads the side-boards at the center or bulges them out, thereby causing serious torsion strains in the side sills, which soon destroy the life of the frame of the car and occasion frequent repairs. Several devices have been used to overcome this difficulty—viz., the introduction of cross-braces, tie-rods, and lateral rods. For the latter a patent No. 317,111 was issued to John M. Garverick, dated May 5, 1885. These lateral rods have presented more or less defects in their construction, and while they are in some respects improvements they are wanting in elements to make them entirely satisfactory. To meet these difficulties and to furnish an effective lateral exterior support to the car is the object of my invention.

My invention consists in one or more lateral rods on the exterior of each side of the car-body, the ends of which rods are provided with screw-threads and nuts, the anchorage of the rods being made in the ends of the side-boards and through iron castings forming anchor-blocks made in such form as to be completely clamped and held in place by the side-boards, thereby being rendered secure against being pulled out.

In carrying out my invention I divide the length of the side-boards A into three spaces or panels by the use of lateral struts B, which I secure to the stakes or side-boards C, the length of these struts being governed by the length of the car and the depth of the truss required. The struts B are formed with a base or footing on one end, which rests against the stake or side-board, and with an eye on the outer end, through which the lateral truss-rod D passes, and which holds the lateral truss-rod in place when the car is unloaded and the tension of the rod is relieved.

The ends of the truss-rod D are received in anchor-blocks E, let into the side-boards of the car and held in place by the engagement of the side-boards and the vertical bolt *a*, which clamps the boards edge to edge and passes through the anchor-block. The bearing-face *b* of the anchor-block is formed at right angles with the axial line of the end sections of the truss-rod D.

It will be seen that the tension on the lateral truss-rods is transferred through the anchor-blocks E directly to the ends of the side-boards, where the full resistance is found; also, that there are two points of support upon each side of the car which transfer the lateral pressure from the center to the ends of the car, where the side and end boards are connected, and accomplish the desired result with a minimum of material and labor. It will also be seen that my improved lateral support is wholly outside of the interior surface of the side-boards and that none of the available space of the car is occupied by the rods or fixtures.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a gondola-car, the combination, with the body or box thereof, of truss-rods ranging along the sides thereof wholly outside of the interior surface of said box, substantially as described.

2. In a gondola-car, the combination, with the side-boards, of lateral truss-rods arranged wholly outside of the interior surface of the side-boards, and anchor-blocks adapted to re-

ceive the pressure of the truss-rods and transfer it to the ends of the side-boards, substantially as specified.

3. In a gondola-car, the combination, with the body or box, of truss-rods ranging along the sides thereof and supported at their ends independently of the end-boards of said box, substantially as described.

4. In a gondola-car, the combination, with the body or box thereof, of truss-rods ranging along the sides thereof and extending at their ends beyond the end-boards of the said box and supported at said extended ends from the side-boards of the box, substantially as described.

5. In a gondola-car, the combination, with the body or box, of truss-rods ranging thereabove outside of the interior surface thereof, and anchor-blocks supported from the side-boards of the box, substantially as described.

6. In a gondola-car, the combination, with the body or box thereof, of truss-rods ranging longitudinally of the latter at the sides, and anchor-blocks for the ends of the truss-rods, said anchor-blocks having longitudinal passages for the truss-rods and provided with heads bearing against the ends of the sides of the box, substantially as described.

FERDINAND E. CANDA.

Witnesses:
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