

(No Model.)

J. M. GARVERICK.  
FREIGHT CAR.

No. 317,111.

Patented May 5, 1885.

Fig. 1.

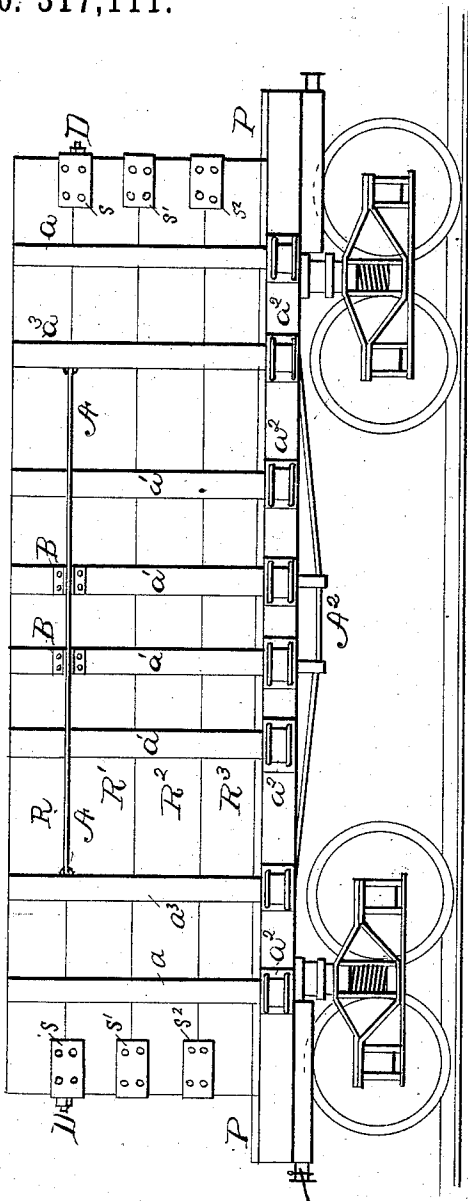


Fig. 2.

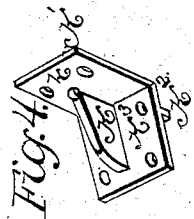
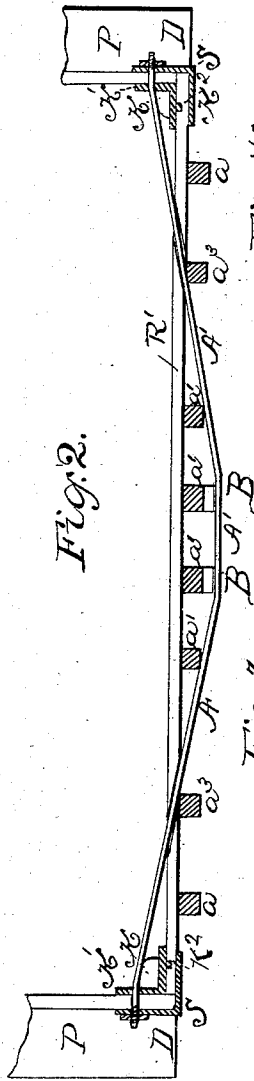
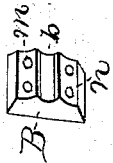


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 317,111, dated May 5, 1885.

Application filed March 17, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. GARVERICK, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Laterally-Trussed Freight-Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

For showing to what my invention relates, I will explain that certain defects exist in the present way of constructing freight-cars, which my invention is designed to overcome. In open-top freight-cars such as are used for transporting coal, the stakes, supported in pockets below on outer side of sills, are insufficient to prevent the sides of bed from spreading at top, or bulging out when the bed is laden with coal and train is suddenly stopped, unless such tendency is counteracted by cross braces or chains. The objections to such means are that the interior of bed is obstructed thereby, and the car cannot be conveniently used for other purposes than to transport coal; that such cross-braces hinder the train-hands when required to pass through empty cars, and that they are liable to be broken in lading, as by coal from chutes or by dumping heavy articles into them from elevated platforms. It is therefore necessary to have the interior of such freight-car beds free of such obstructing cross braces, rods, or chains.

The object of my invention is, mainly, to provide the side walls of freight-cars with longitudinal truss-rods to counteract the lateral strain which tends to bulge out the sides of the beds at their middle, the same being arranged to be out of the way of the contents of car, and no impediment to passing trains, as the otherwise unprotected stakes sometimes are.

The peculiar features and method of applying my truss-rods will be hereinafter explained, and specifically shown by the claims.

In the accompanying drawings, to which reference is made in the further description of my invention, similar reference-letters denote similar parts throughout.

Figure 1 represents a side elevation of an open-top freight-car with my invention ap-

plied. Fig. 2 represents a horizontal section of the bed taken at the division-line between the two upper planks of the bed, and through one of my truss-rods and its supports. Fig. 3 represents one of the seat-plates for supporting the middle of truss-rod exterior to the stakes. Fig. 4 represents a like perspective view of one of the corner-braces adapted for corner of bed and co-operating with the adjacent exterior corner-band to firmly support the end of truss-rod.

In the description, letters R R' R<sup>2</sup> R<sup>3</sup> denote the planks in side of car-bed, supported at their ends by the overlapping corner-bands s s', joining them together, and to the end planks of car-bed in the usual manner. Letters a a' a<sup>2</sup> denote the stakes exterior to said planks of car-bed, which are supported in the pockets a'. The four stakes a' in the middle of car-bed side are spaced closer together than the paired end stakes, a a<sup>2</sup>, for the more convenient application and correct action of my longitudinal truss-rod A, applied to brace against the middle stakes exteriorly, and to pass through the wall of the bed at the points where stakes a<sup>2</sup> cross the joint of plank R with plank R', and thence diagonally through the corner inside, and through the corner-bands s a little way from the corner of bed. The ends of truss-rods are secured by nuts D on their threaded parts exterior to said bands, as shown, or in an equivalent manner. The rod A is simply round iron of about seven-eighths diameter. The middle stakes a' are provided with the notched seat-pieces B applied thereto, and adapted to support said rod A in manner to have bearing thereon to maintain the bed straight at middle without denting the wood-work.

The ends of bed are kept from staving in, not only by said corner-bands s, but also by the added corner-braces K, which parts are applied outside and inside of the wood-work or bed-planks, having holes oppositely registering with each other, through which screw-bolts with nuts or rivets secure them together, in manner to constitute strong anchorages for the ends of the said rods A, one on each side of bed. Said corner-braces, in form as shown in Fig. 4, have the bases K' and K<sup>2</sup> re-enforced by the filling K, whose edge conforms to the line of traction of said rod A and comes flush

with the edge of the hole where rod A passes through the base K', that the brace may be strong at the point of purchase thereon. On the outer side of the base K<sup>3</sup> is formed the transverse ledge K<sup>2</sup>, adapted when fitted well to square shoulders in the planks R R', to maintain the corner-brace at its place of duty by the strength of end wood at said shoulders. The truss-rod A is therefore inserted between said planks R R', not only because this may be readily effected, but also that said corner-braces may have the benefit of purchase by said ledges K<sup>2</sup> on both the planks united by said corner-irons.

I am aware that truss-rods have before been used, as at A<sup>2</sup>, to remedy the sag in the vertical direction; but I am not aware that a lateral through truss-rod was ever applied exterior to the bed-stakes at their middle portion and extended through the corners of the bed at its ends, nor that its ends were screw-threaded and provided with nuts adapted to take up the slack of truss-rod, owing to wear of parts assembled thereby, for keeping the sides of an ordinary car-bed straight and rigid.

I claim—

1. In a railway-car, a set of longitudinal truss-rods, each similarly extended at the middle and along the outside of bed over seats therefor, and having its ends diagonally ex-

tended through the bed and secured through corner irons on the bed by fastenings anchoring the ends of the rod exterior to ends of the car-bed, substantially as and for the purposes set forth.

2. In a railway-car, the combination of the longitudinal truss-rods, A, stakes a', provided with seats B, having the middle of said rods applied thereto, stakes a<sup>3</sup> sufficiently distanced from the stakes a' for admitting the limbs of said rods between them and between the planks R R' in direct diagonal lines, and the corner-irons K s, firmly attached to the bed, and having the ends of said rods secured through them, substantially as and for the purposes set forth.

3. A railway-car provided with truss-rods A, strung over rests B on the outside, and secured at their ends diagonally through the corners of the car-bed, and provided with the corner-bands s, used as washers for the nuts D on said rods, in combination with the reinforcing corner-braces K, provided with abutting ledges K<sup>2</sup>, and co-operating with said bands, substantially as and for the purposes set forth.

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Witnesses:

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