(No Model.) 2 Sheets—Sheet 1.

W. A. THOMAS.

LATERAL SUPPORT FOR SIDES AND ENDS OF CARS.

No. 570,148. Patented Oct. 27, 1896.

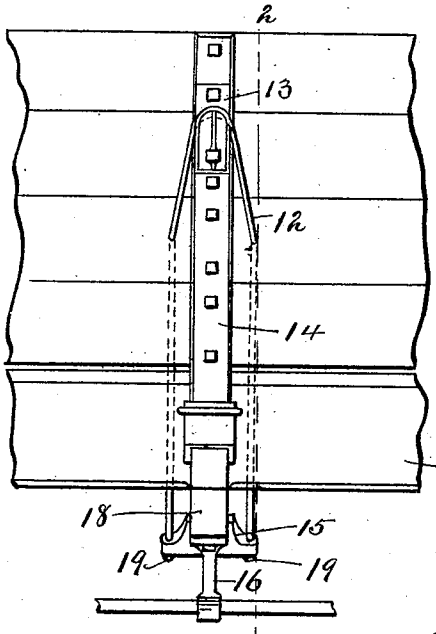


Fig. 1.

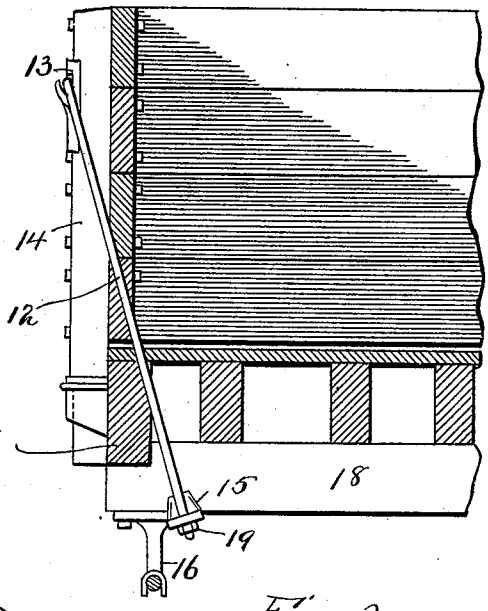


Fig. 2.

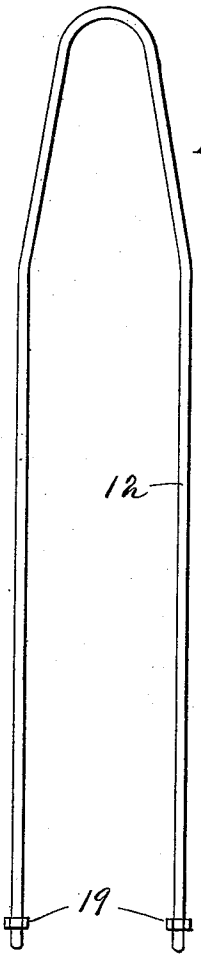


Fig. 3.

Fig. 4.

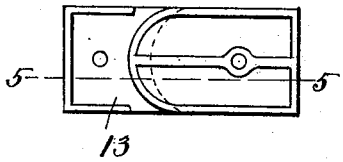


Fig. 5.

Fig. 6.

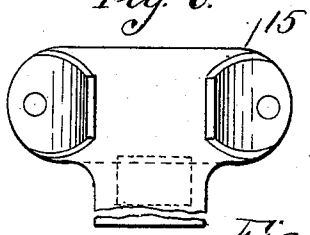
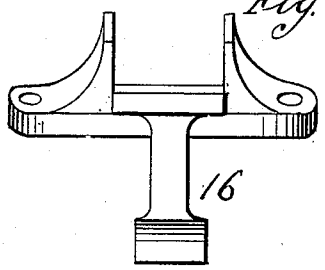


Fig. 7.



Witnesses
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C. A. Crawford

Wesley Albert Thomas, Inventor
by his atty Paul Synnestvedt

(No Model.) 2 Sheets—Sheet 2.

W. A. THOMAS.

LATERAL SUPPORT FOR SIDES AND ENDS OF CARS.

No. 570,148. Patented Oct. 27, 1896.

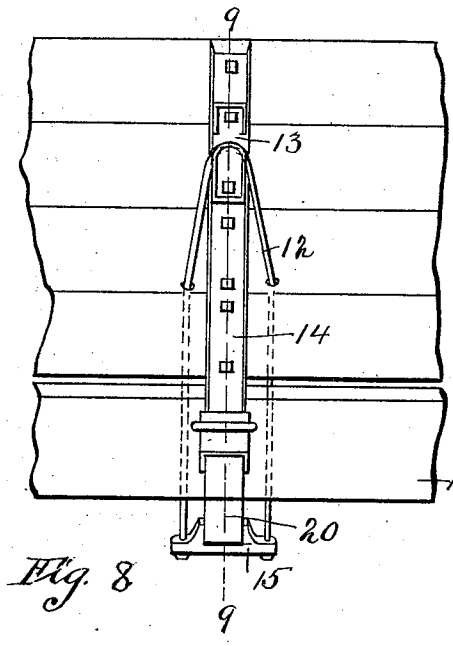

Fig. 8

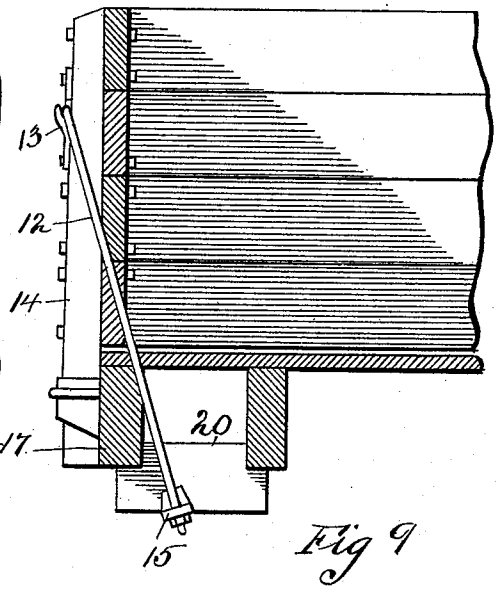

Fig 9

Witnesses
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UNITED STATES PATENT OFFICE.

WESLEY ALBERT THOMAS, OF VICKSBURG, MISSISSIPPI, ASSIGNOR OF ONE-HALF TO J. J. CASEY, OF CHICAGO, ILLINOIS.

LATERAL SUPPORT FOR SIDES AND ENDS OF CARS.

SPECIFICATION forming part of Letters Patent No. 570,148, dated October 27, 1896.

Application filed December 30, 1895. Serial No. 573,715. (No model.)

To all whom it may concern:

Be it known that I, WESLEY ALBERT THOMAS, a citizen of the United States, residing at Vicksburg, in the county of Warren and State of Mississippi, have invented certain new and useful Improvements in Lateral Supports for the Sides and Ends of Cars, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of devices which are used for the purpose of strengthening the sides and ends of railroad-cars and preventing them from bulging or being forced out of shape or position by the lateral pressure of the load, and it is especially applicable to the class of cars known as "gondola" cars and used principally for the carriage of coal, ore, and other like commodities.

Among the various strengthening devices of the class referred to which have been heretofore used may be mentioned tie-rods running from one side of the car to the other, which it is obvious will interfere seriously with the proper loading and unloading of the car, especially if the load be matter bulky in form. These tie-rods have in fact been found so objectionable in practice that numerous other means have been resorted to for accomplishing the same end. Prominent among these is the plan of tying the sides together firmly at the end-gates and then trussing the top edge of the sides by rods running from each end over queen-posts projecting out laterally from the sides. It is obvious that with the extreme length of car now in common use such a truss as the one above described must be very inefficient, because it cannot be made of sufficient depth to afford any great degree of strength without projecting unreasonably far outside of the car-body itself. The size of the tunnels and the location of various obstructions at station-platforms set a definite limit (which, it may be observed, is a very narrow one) on the allowable extension of such a truss.

Another method that has been very commonly used for trussing these cars has been the incasing of the lower end of the stake or side post in a casting extending down to the bottom of the car-sill. The effect of this arrangement has been to roll the sill outward at the top and inward at the bottom, this yielding of the sill destroying all the benefit that might have been derived in the nature of support for the car sides.

Another method which has been used very largely consists of a strap bent around the side at the top, running down along the inside and through the outer sill, with a nut on the lower end, a construction adapted particularly to perform the function of holding the side down to the floor of the car, there being on most cars of this class a perceptible tendency of the side of the car to work upward and leave an opening between the lower edge and the car-floor. This arrangement, as can readily be understood on a moment's reflection, is practically useless as far as sustaining the side against the lateral pressure of a heavy load is concerned, and it also has a tendency on the tightening of the adjusting-nut of the lower end of the strap to distort the position of the sill and side boards as well. Cars with all these various methods of trussing may be found in quantities in almost any railroad-yard, and almost without exception an examination will disclose the fact that the device used has proven not only entirely inefficient but also injurious in one manner or another to the construction of the car itself.

The object of my invention is to provide a simple, inexpensive, and efficient truss for car sides and ends which will obviate all of the above-mentioned difficulties, which, at the same time that it supports the side against lateral pressure, will act as an anchor to prevent the side from working upward away from the car-floor, and which, furthermore, may be as easily applied to old as well as to new equipment; but to better understand the nature of my invention reference may be had to the accompanying drawings, in which—

Figure 1 represents a part of the side of the common form of gondola car, showing one stake in place supported by a truss constructed in accordance with my invention. Fig. 2 is a section taken on the line 2 2, Fig. 1. Fig. 3 is a larger view of the truss-rod itself. Figs. 4 and 5 are different views of the truss-rod seat, Fig. 5 being a section taken

on the line 5 5 of Fig. 4. Figs. 6 and 7 represent the truss-rod plate or twin washer as formed in one piece with the queen-post of the car-truss proper. Figs. 8 and 9 represent my construction of truss as applied to stakes along the side of the car at places where there are no needle-beams.

Referring now more particularly to Figs. 1 and 2, 12 is the truss-rod itself, which I prefer to make in the strap form shown in Figs. 1, 2, 8, and 9, because it is stronger, much easier to apply, and requiring no holes through either stake, sill, or needle-beam, and does not in any manner weaken any part of the car construction.

13 represents the truss-rod seat, which is made in the form of a stirrup-plate and is preferably mortised into the stake 14, as shown in Fig. 2, in order to take the strain off the bolts.

15 is the twin washer or truss-rod plate, which can, if desired, be made integral with the queen-post 16, (in which form it is shown in Figs. 6 and 7,) where the stake comes over a needle-beam, but would of course be made in the shape shown in Figs. 8 and 9 for use in places where there was no needle-beam.

Fig. 2 shows clearly the proper approximate angle at which to place the truss-rod, it being so located that it will pass nearly inside of the outermost sill 17 and yet not encroach to any material extent upon the space within the body of the car. The two arms of the rod 12 are preferably spread sufficiently to pass on either side of the needle-beam 18, as shown most clearly in Figs. 1 and 9. On turning the nuts 19 any desired degree of tension may be put upon the truss, and it is to be particularly noted that this same adjustment acts to pull the side down against the car-floor at the same time that it draws the upper edge inward.

Figs. 8 and 9, as before stated, represent the application of my improved truss to a post or stake on the car where there is no needle-beam, it being necessary in this case to insert a short block 20 between the two outermost sills to act as a bearing for the plate 15.

While the preceding description relates more particularly to the use of my invention on the sides and ends of gondola and coal cars, it is obvious that it is equally applicable to use on the sides and ends of box and stock cars, where severe lateral strains are sometimes encountered through the shifting of loads, and I desire to be understood as regarding such use as clearly within the scope of my claims.

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

1. In a support for the sides and ends of cars, the combination with a stake 14, and beam 18, of a truss-seat 13, secured on said stake, and a truss-rod engaging at its upper portion said seat and having arms passing on both sides of said stake through said side or end, and means for securing the free ends of said truss-rod in the plate or washer and on opposite sides of said beam.

2. A support for the sides and ends of cars, comprising a truss-seat adapted to be secured to a suitable portion of the car-frame, a truss-plate adapted to be secured beneath the car-frame, and a truss-rod provided at its upper end with a saddle to engage the truss-seat, and with parallel-disposed members to be secured to the truss-plate, the said truss-rod, when secured in place occupying a plane approximately bounded by the inner wall of the car-body, the two members disposed one on each side of the stake and needle-beam.

WESLEY ALBERT THOMAS.

Witnesses:
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P. LENG.