

(No Model.)

2 Sheets—Sheet 1.

J. TURNER.
CAR BODY.

No. 456,864.

Patented July 28, 1891.

Fig 2

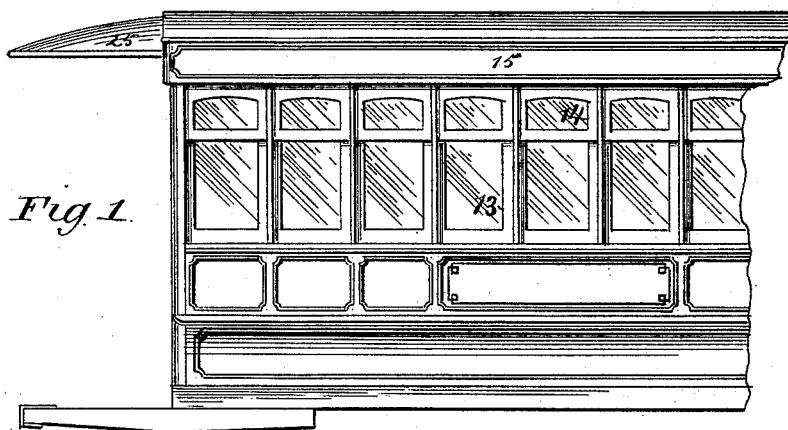
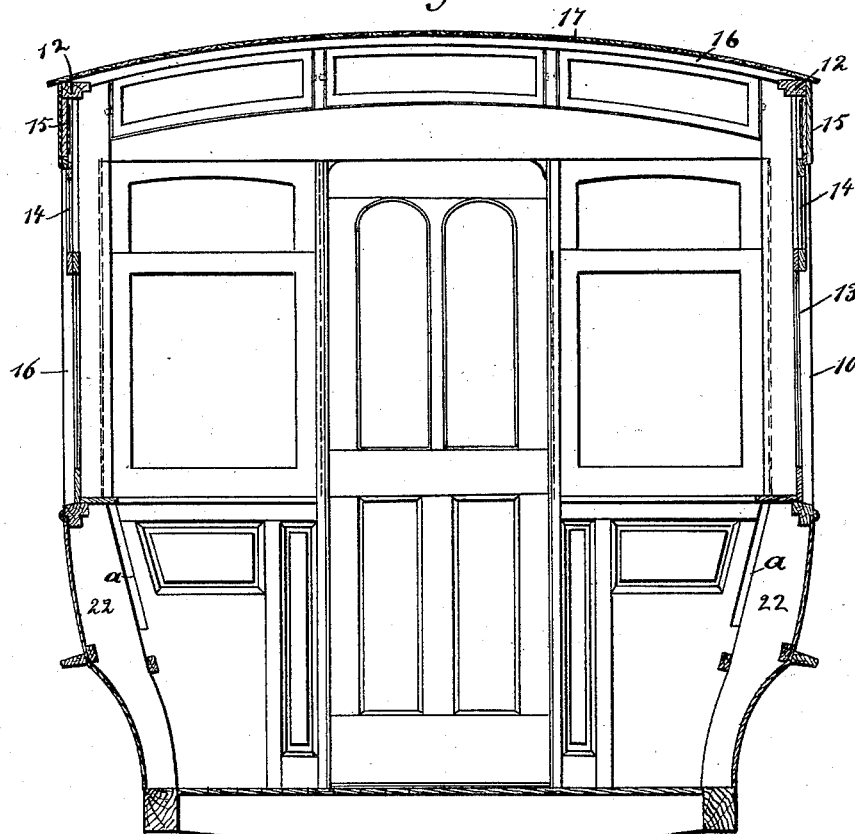


Fig 1

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INVENTOR:

J. Turner
BY *Munn & Co.*

ATTORNEYS

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Fig 3.

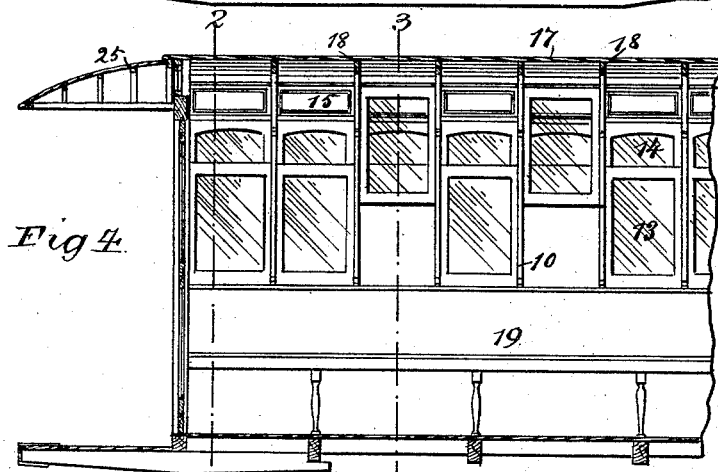
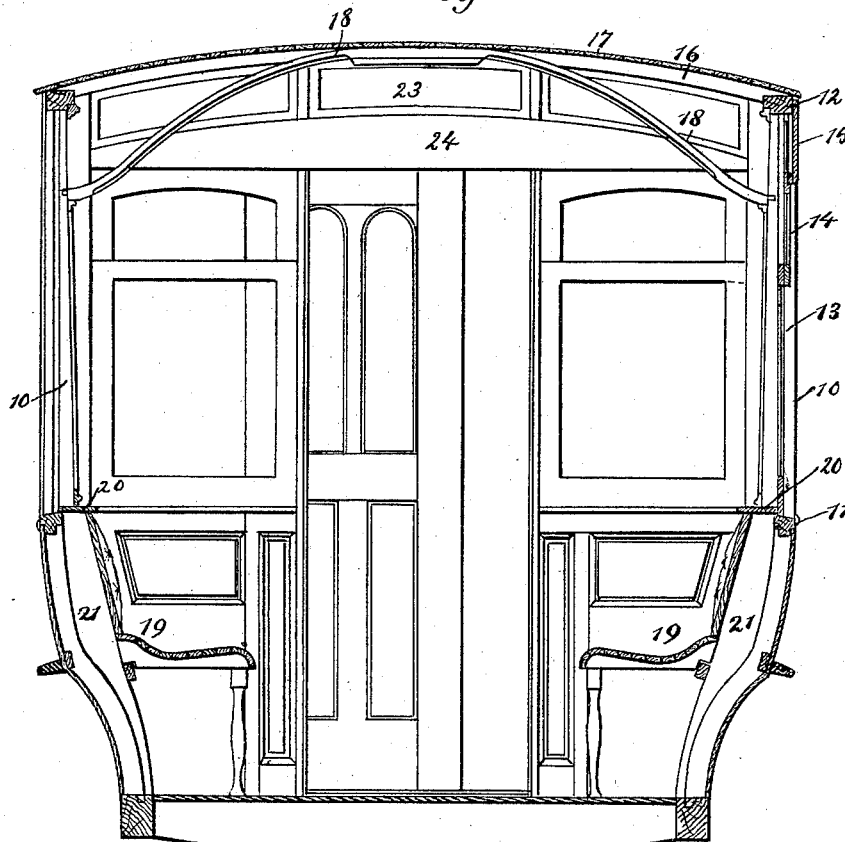


Fig 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN TURNER, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO JOHN WIMMER AND HENRY J. MUHLFELD, BOTH OF SAME PLACE.

CAR-BODY.

SPECIFICATION forming part of Letters Patent No. 456,864, dated July 28, 1891.

Application filed March 24, 1891. Serial No. 386,211. (No model.)

To all whom it may concern:

Be it known that I, JOHN TURNER, of New York city, in the county and State of New York, have invented a new and useful Improvement in the Construction of Car-Bodies, of which the following is a full, clear, and exact description.

My invention relates to an improvement in the construction of car-bodies, especially horse, cable, and electric cars, and has for its object to provide a car-body having a much greater air-space and more head room than the cars at present in use, but which will not be of greater height, and to provide a means, also, whereby the car-body will possess greater strength than those at present constructed and may be built at much less cost.

A further object of the invention is to provide a means whereby the windows of horse, cable, and electric cars may be raised instead of being dropped, as heretofore, and when so manipulated wherein the window will disclose an opening of standard size. It is evident that when the window is raised in order to open it the pocket heretofore employed to receive the usual drop-window may be closed, thus dispensing with what has heretofore been a receptacle for refuse, and also preventing the rapid decay of the car-body by preventing rain, snow, or any material calculated to decay wood from being introduced back of the seats.

Another object of the invention is to provide for a perfect ventilation of air and a means whereby the ventilating apparatus may remain open even in inclement weather without admitting rain or snow to the interior of the car.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a partial side elevation of the car-body constructed in accordance with my invention. Fig. 2 is a transverse section taken

on the line 2 2 of Fig. 4. Fig. 3 is also a transverse section taken on the line 3 3 of Fig. 4, and Fig. 4 is a partial longitudinal section of a car-body.

In the construction of the car the pillars 10 rest upon or are mortised in or otherwise attached to the side sill-beams 11, and the said pillars are carried upward and are secured to plates 12 in any suitable or approved manner. The pillars are very much longer than are those usually employed in the construction of car-bodies, and the length of the pillars is such that the distance from the floor-line to the top of the plates 12 is almost equal to the height of the car-body at the center thereof. The pillars are provided with sash-grooves to receive sashes 13, and the sash-grooves in the pillars are straight, as the sashes in being raised are carried upward instead of downward. Between the pillars, near their upper ends, a series of permanent sashes 14 is secured, which sashes are preferably immovable, and the movable sashes 13 slide upward back of the permanent ones. Above the permanent sashes a framing 15 is erected, extending upward practically to the tops of the plates 12.

The car-roof is made up of a series of rafters 16, framed in the plates 12, upon which they rest in any suitable or approved manner, and sheathing 17 properly laid upon and secured to the rafters. Thus it will be observed that the roof is supported upon the plates 12, which are in turn supported by the pillars, and that the height of the car-body at the sides thereof is almost the same as at its central portion. The height at the central portion of the car is the standard height, and by elevating the roof in the manner described considerably more head room is acquired over the seats and an ample air-space is obtained.

The roof is provided with supports auxiliary to the pillars and plates, and the auxiliary supports consist of a series of trusses 18, upon the central portion of which the roof has a bearing, and the ends of the trusses are curved downward and stepped in or otherwise secured to the pillars 10, as illustrated in Fig. 3.

The window-sashes 13 when elevated, as shown in Fig. 4, are so located that the upper

portion of the sashes engage with the under faces of the plates 12, or practically so. As the sashes are moved upward, the space between the back of the seats 19 and the sides of the car-body is covered by caps 20, which caps constitute inside window-sills and effectually prevent any foreign matter from being inserted in the space or pocket 21, which ordinarily exists between the back of the seats and the sides of the car. By carrying the windows upward to open them and by closing the pockets 21 the seats at their ends may be secured to the corner-posts 22, as illustrated at *a* in Fig. 2. Ventilators 23, which usually consist of pivoted sashes, are located in the upper framing 24, at each end of the car beneath the bonnets 25, as is illustrated in Figs. 2, 3, and 4.

By the construction above set forth the strength of the car-body is greatly increased over the bodies ordinarily constructed, as I am enabled to use solid pillars, while the pillars in the present manner of constructing cars are routed to allow the sash to fall below the line of the window-opening, which routing very materially weakens the pillar. The construction of the present car-roof is that of a short top rafter placed upon two braces coming together in the center beneath the top rafter, with ends resting upon a side plate, a stud between the top rafter and lower rafter forming spaces in which to fit ventilators.

My improved construction of car-bodies above described, by carrying the pillars upward and causing the said pillars to sustain the weight of the roof at the sides thereof and connecting the roof and pillars by trusses, gives two supports or bearings to the roof instead of but one. By the alteration in the roof and ventilators I obtain a better ventilation, because the ventilators are located at the ends of the car, extending the entire width thereof, and by placing the bonnet above the ventilating-openings rain is prevented from being beaten in and the occupants of the car are enabled to enjoy the privilege of having the ventilators open without regard to the weather. The present method of ventilating cars above the roof-line does not afford protection in driving storms, and necessitates the closing of at least one side of the car-ventilators, which at once interferes with proper ventilation. I also obtain a greater space inside of the car, because the side line of the roof is run up to the line upon which the main roof is ordinarily built, which increases the air-space directly over the seats, but does not increase the height of the car. I also claim that the ventilators of the cars in present use add unnecessary weight to the roof and soon cause it to sag.

By my improved method of construction in general, and by the placing of a line of sash

above the working sash, I am enabled to admit more light and transfer the weight from the roof to the pillars, because the pillars are carried up to the line of the main rafter.

By constructing the window-sash to raise it instead of dropping it I economize in repairs, because the inner sill closes the usual pocket opening at the back of the seat, used at present as a receptacle for the lowered sash, thereby preventing water from entering the pocket and rotting the panels and framework of the car. By closing the pocket I also obviate the foul and musty odors that now emanate from them by reason of the foreign and decaying matter which is constantly gathered into the pockets. By placing the ventilators at the ends of the car and beneath the bonnet I prevent the damage which is invariably done under the old construction by reason of the rain leaking in through the crevices and general frame-work around the ventilators.

By running the sashes and blinds upward I am enabled to securely fasten the backs of the seats, as heretofore stated, to the corner-posts 22 and secure the under portions of the seats to the sills, thus forming trusses to support the load, while in the car at present in use the seat-backs are not fastened to the corner-posts, owing to the frequent necessity of removing the backs so as to repair the slideways for the windows, as the slideways frequently lose shape on account of the weakness of the pillars and the sash traveling in an irregular line.

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

1. A cable, electric, or horse car having its seats arranged longitudinally and provided with the longitudinally-grooved pillars 10, carried by the side frame and supporting the roof, the trusses 18, having their ends secured to the pillars and supporting the roof at the center, the window-sashes 13, sliding upwardly between the pillars, the permanent or fixed window-sashes 14 between the upper portion of the said pillars, and the cap-plates 20, closing the space between the backs of the seats and the side of the car, substantially as herein shown and described.

2. In a cable, electric, or horse car, the combination, with the side framing of the car, pillars carried by said framing, and plates secured upon the pillars, of rafters secured to the plates, sheathing secured upon the rafters, and trusses having their ends secured to the pillars and supporting at their centers the roof, substantially as herein shown and described.

JOHN TURNER.

Witnesses:

OTTO HUMES,
HENRY M. COX.