

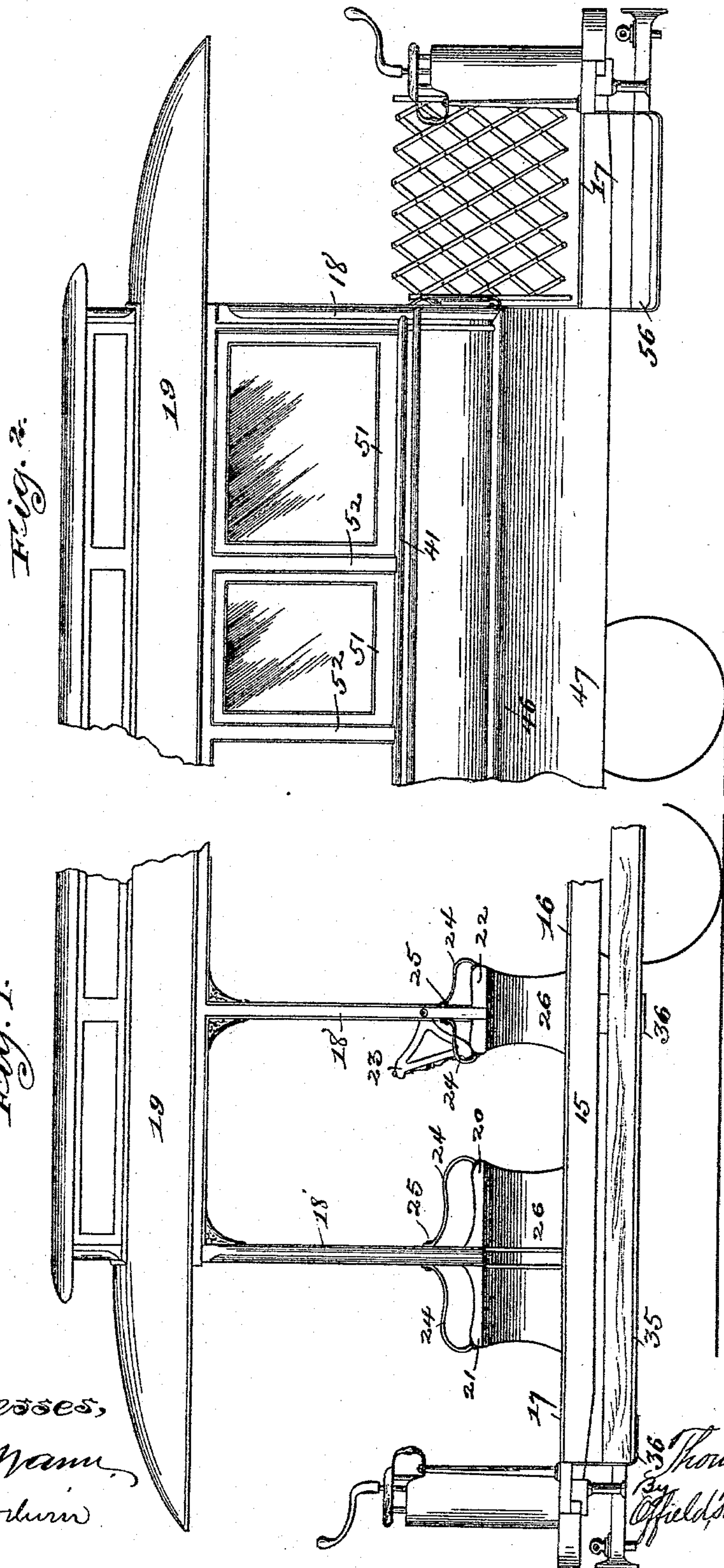
(No Model.)

6 Sheets—Sheet 1.

T. H. WICKES.  
STREET CAR.

No. 515,567.

Patented Feb. 27, 1894.



Witnesses,  
J. J. Mann,  
F. C. Goodwin.

Inventor,  
Thomas H. Wickes,  
By Field, Fowler & Luthie,  
Attys.



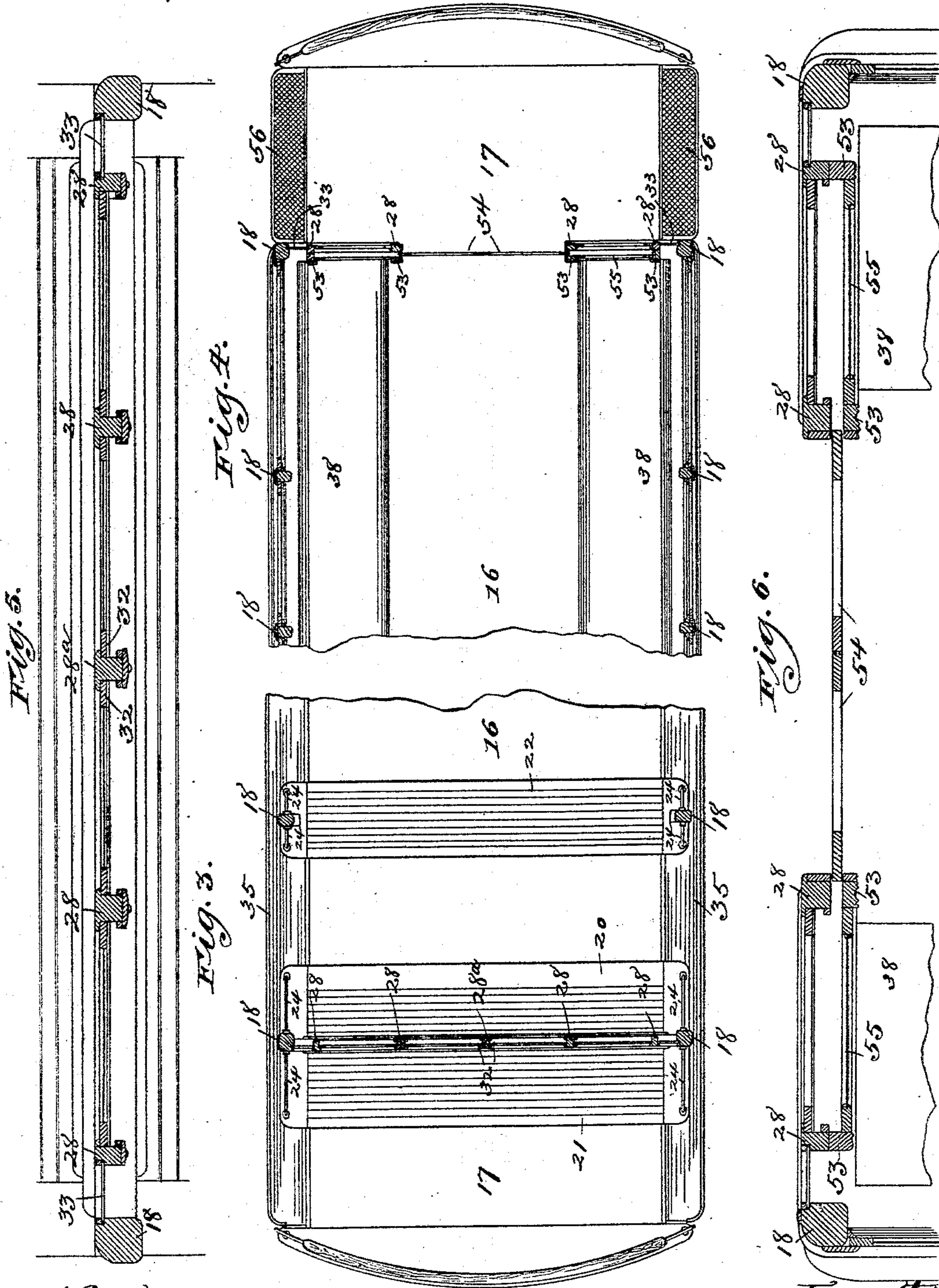
(No Model.)

6 Sheets—Sheet 2.

T. H. WICKES.  
STREET CAR.

No. 515,567.

Patented Feb. 27, 1894.



Witnesses,  
J. M. Mann  
J. B. Goodwin

Inventor,  
Thomas H. Wickes,  
By Offield, Fowler & Luthien  
Attys.

(No Model.)

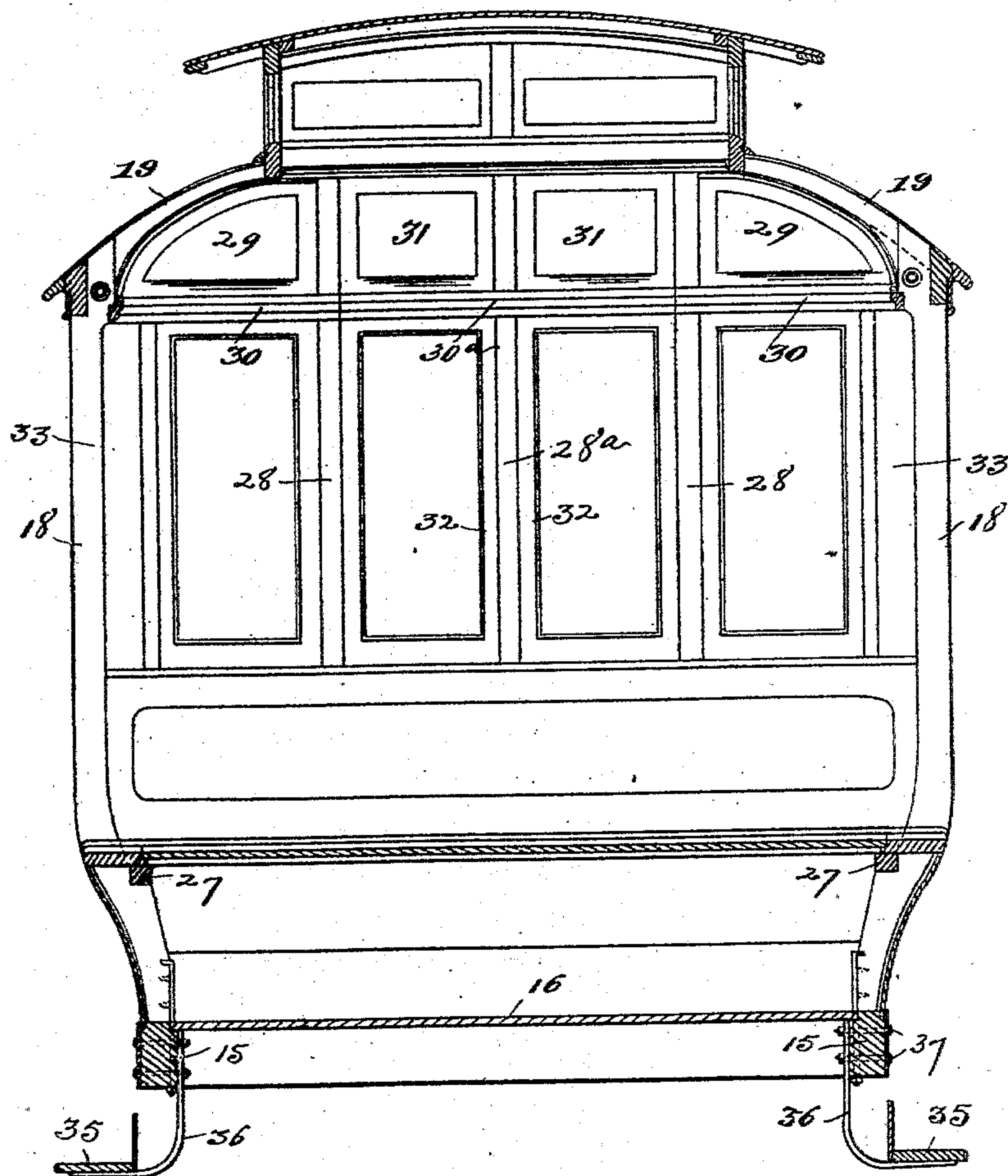
6 Sheets—Sheet 3.

T. H. WICKES.  
STREET CAR.

No. 515,567.

Patented Feb. 27, 1894.

Fig. 7.



Witnesses,  
J. W. Mailington  
F. C. Goodwin

Inventor,  
Thomas H. Wickes  
By *Offield Fowler Luthicum*  
Attys.



(No Model.)

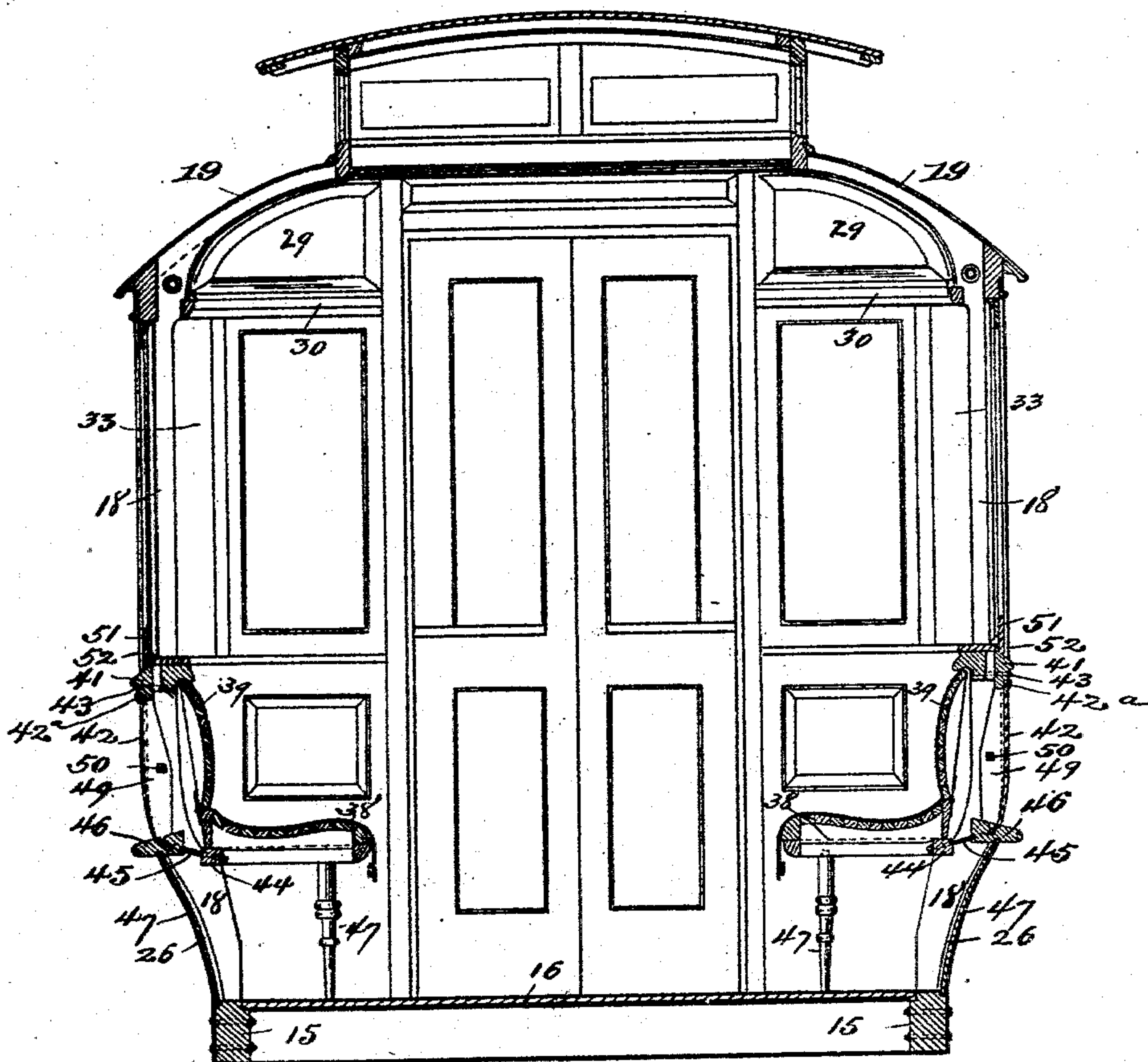
6 Sheets—Sheet 4.

T. H. WICKES.  
STREET CAR.

No. 515,567.

Patented Feb. 27, 1894.

Fig. 8.



Witnesses,  
J. E. Mann,  
J. C. Goodrum

Inventor,  
Thomas H. Wickes,  
By Offield, Fowler & Lenthum  
Attys.

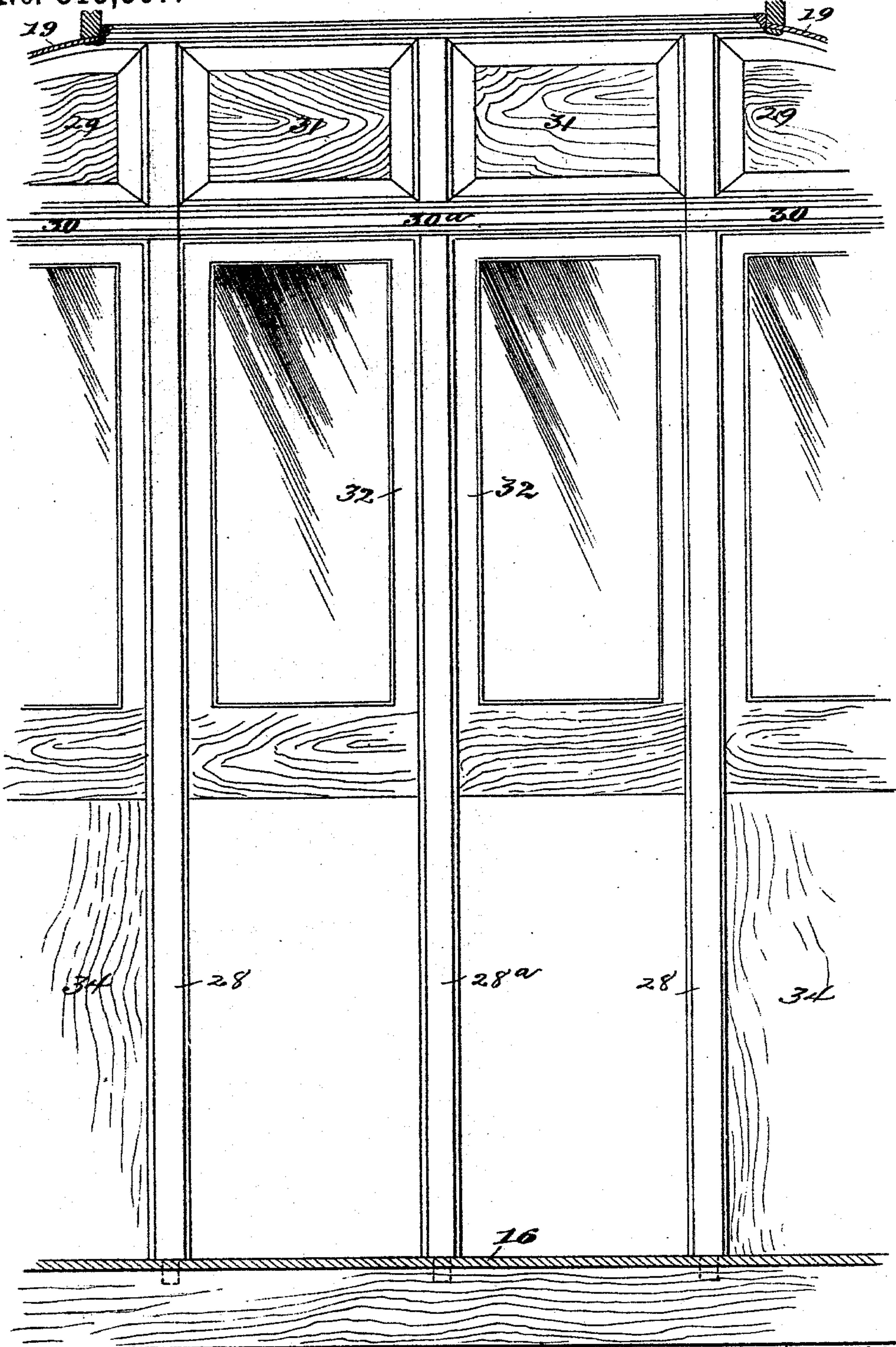
(No Model.)

6 Sheets—Sheet 5.

T. H. WICKES.  
STREET CAR.

No. 515,567.

Patented Feb. 27, 1894.



Witnesses,  
*J. W. Hillinger*  
*F. B. Goodrum*

Fig. 3. *Thomas H. Wickes*  
Inventor,  
*By Offield Towle & Hutchinson*



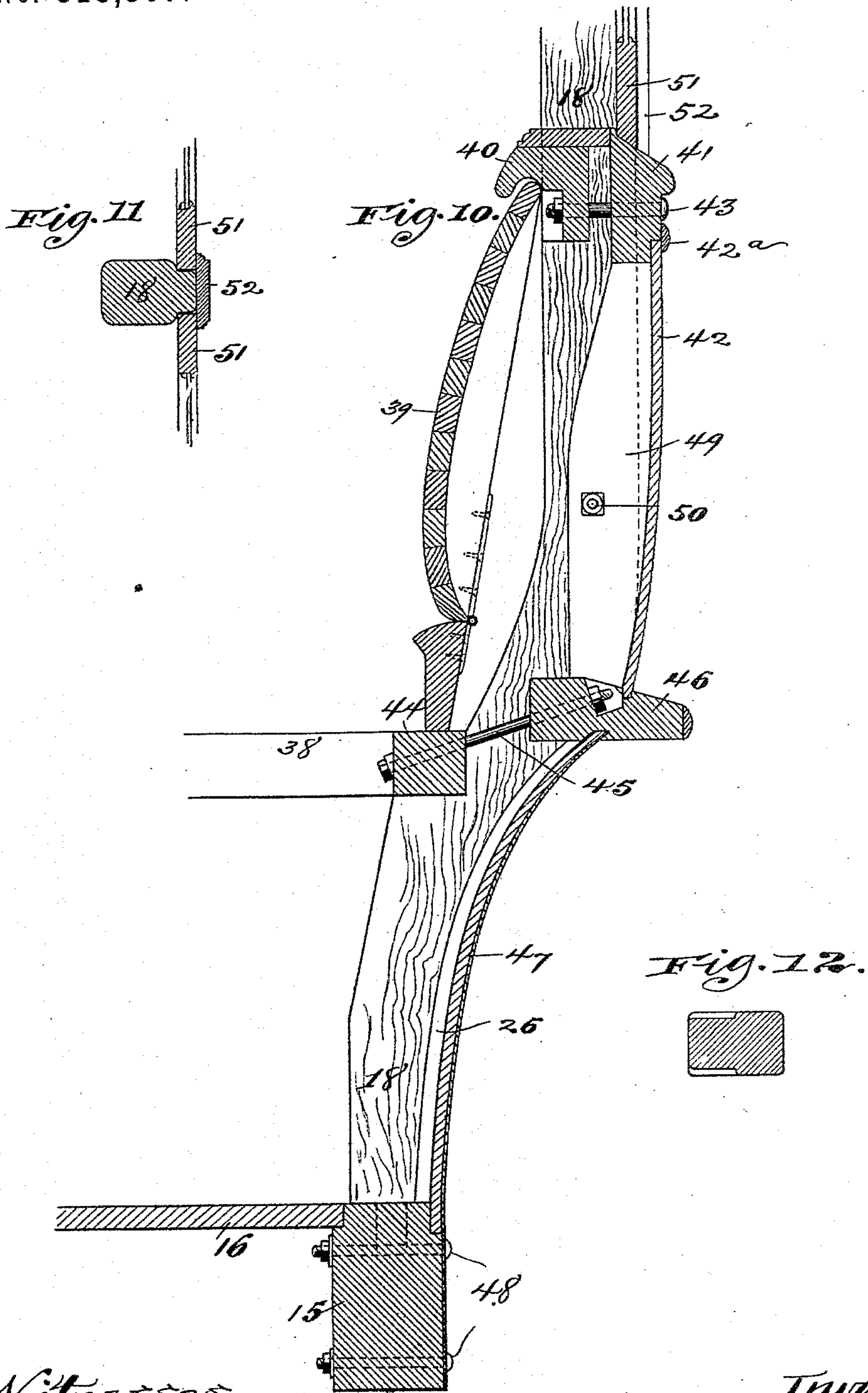
(No Model.)

6 Sheets—Sheet 6.

T. H. WICKES.  
STREET CAR.

No. 515,567.

Patented Feb. 27, 1894.



Witnesses,  
J. Mann,  
J. B. Goodrum

Inventor,  
Thomas H. Wickes,  
Roy Offield, Fowler & Lutherman  
Attys.



# UNITED STATES PATENT OFFICE.

THOMAS H. WICKES, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PULLMAN'S PALACE CAR COMPANY, OF SAME PLACE.

## STREET-CAR.

**SPECIFICATION** forming part of Letters Patent No. 515,567, dated February 27, 1894.

Application filed September 27, 1893. Serial No. 486,596. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS H. WICKES, of Chicago, Illinois, have invented certain new and useful Improvements in Street-Cars, of which the following is a specification.

This invention relates to passenger cars, and more particularly to street railway cars; and the object of the invention is to provide a car adapted for use as an open car for summer or as a closed car for winter; and to this end the invention consists in certain features of construction and arrangement of parts whereby the conversion of the car from one type to another may be effected quickly by unskilled labor and without injury to the car or any of its parts.

This invention is designed to utilize the same car bodies both for summer and winter, certain accessories being provided which may be conveniently and economically stored when not in use.

The common practice of street railway companies is to maintain a full equipment of both summer and winter cars, and not only is this expensive both in the capital invested in the cars themselves, but the question of storage of the cars which are not in use is a serious one and involves in some instances a large outlay for grounds and buildings. Experience has shown that the most available car for winter use is the type wherein the seats extend along the sides of the car parallel to them, leaving the center of the car free for passage and for standing room, while the preferred type of open car is that wherein the seats extend transversely of the car body and from side to side and have aisles or passage ways transversely of the car between the seats. With the latter named type of car it is essential to provide foot boards extending along the entire length of the car and on both sides, and both types of car preferably have front and rear platforms with steps leading thereto from both sides. I have kept these considerations in mind in the construction of my improved convertible car and have made suitable provision for the various exigencies of use of each type of car.

In the accompanying drawings, Figures 1 and 2 are, respectively, broken side elevations of the same car body, the former show-

ing the open type and the latter the closed type of cars. Figs. 3 and 4 are sectional plan views of the parts shown in Figs. 1 and 2 respectively. Fig. 5 is a sectional plan view through the bulk head of the open car. Fig. 6 is a similar view through the bulk head of the closed car. Fig. 7 is a transverse sectional elevation through the open car. Fig. 8 is a similar view through the closed car, the bulk heads in both instances showing in elevation. Fig. 9 is an enlarged broken elevation of the bulk head of the open car, the seats shown in Fig. 7 being omitted. Fig. 10 is an enlarged sectional detail through one of the side walls of the closed car; and Fig. 11 is a cross section on the line 11—11 of Fig. 10. Fig. 12 is a cross section through one of the posts showing gains to receive a belt rail.

In the drawings, 15 represents the longitudinal floor beams which support the floor 16 and its platforms 17. 18 represents the posts which carry the roof 19, and which are spaced so as to provide passage ways between the seats in the open car and to provide window posts in the closed car. The arrangement of the car for summer use is shown in Figs. 1, 3, 5, 7, and 8, and these posts are flanked by the transverse seats 20 facing in opposite directions at the ends of the car, while these seats, except at the ends, are marked 22 and have their centers disposed in the line of the posts with reversible backs 23, which adapt them for seating passengers facing in either direction. This being the ordinary arrangement no particular description of it will be required, except to call attention to the special arrangement made with a view to the removal of these seats. The ends of the seats are provided with arm rests 24 which are held by a single bolt 25 passing through transverse holes in the posts. Shields 26 are fitted outside of the posts and cover the ends of the seats of the open car and form a permanent part of the structure. The posts are notched on their inner sides as clearly shown in Figs. 7, 8, and 10, and transverse cleats 27 forming a part of the seat frames rest in these notches or recesses and support the ends of the seats as shown in Fig. 7. By removing the bolts which hold the arm rests of



the seats such seats can be quickly removed when it is desired to convert the car into the closed type.

The bulk heads of the open car are most clearly shown in Figs. 3, 5, 7 and 9. In the open car a series of vertical posts, marked 28, 28<sup>a</sup>, are arranged transversely of the car, their lower ends resting on the floor and their upper ends supporting the roof structure.

29 represents stationary panels which are permanently secured beneath the lower deck roof; and extending transversely of the car between its side walls and flush with the lower side of said panels is the molding 30, which is divided transversely at the second post from the outside on each side, the central portion 30<sup>a</sup> being removable to adapt the placing of doors in the ends for the closed car. In the open car the removable panels 31 are carried by the removable portion of the molding 30 and the window sashes 32 are slipped in between the posts 28, four windows being provided, two on each side of the center of the end of the car with two smaller sashes 33 at the sides. Panels may take the place of the sash 33. These windows extend to the plane of the tops of the seats and below the two central windows the space between the posts is left blank, while the space between the lower ends of the outer posts is closed by the permanent panels 34. The removable foot boards 35 which are carried by the hangers 36 held by the bolts 37 complete the arrangement of the car for summer use, except the curtains for closing the space between the posts, which may be added or not at pleasure.

To convert the car above described into a closed car the bolts holding the arm rests are removed, the seats 20, 21 and 22 lifted out and the central post 28<sup>a</sup> is removed. This post may be made readily removable by providing it with suitable sockets at top and bottom. The central windows of the bulk head and the removable section 30<sup>a</sup> of the molding 30 are taken out with the post 28<sup>a</sup>, and thus space is provided for the placing of doors. The seats for the closed car are clearly shown as to their particular construction in Figs. 8 and 10, and are marked 38. They have hinged backs 39, the upper edges of which take into recesses of the belt rail 40, which together with the sash rail 41 are clamped to the frame posts by means of the bolts 43. The posts are gained slightly, as shown in Fig. 12, to give bearings for the belt rail which is gained to receive the ends of the bolts which are concealed by the back of the seat. The seat is supported by the longitudinal stringers 44 which rest in the recesses or notches in the posts 28. These stringers 44 are held in place by the bolts 45 whose heads or nuts (as the case may be) engage recesses in the fender or guard rail 46. The seats are further supported at their front edges by the legs 47 which are preferably made removable. By removing the bolts 43 and 45 the seat may be taken out, the back folded down, the legs removed and

the entire seat structure stored in compact form. The fender rail 46 is grooved on its under side to receive the upper edge of a long panel 47 which is preferably sheet metal and covers and incloses the side of the car from the plane of the seats to the floor timbers, being held on the latter by the bolts 48. The fender rail 46 is supported by the panel 26 and the sheathing panel 47 and is held in place by the binding bolts 45. The sash rail 41 is carried by the removable posts 49 which are held by bolts 50 passing through the same bolt holes as the bolts 25 when the latter are used. The convex panel 42 is secured to the edges of posts 49 and its upper edge rests in a gain in sash rail 41 and is covered by a narrow batten 42<sup>a</sup>. Windows 51 are arranged between the side posts, the latter being gained on their outer corners as shown in Fig. 11, and the windows held in place by the removable casing strips 52.

In order to adapt the ends of the car to the changed conditions, the central post 28<sup>a</sup>, the molding 30<sup>a</sup> and the two central windows, as well as the panel 31, are taken out, and additional posts 53 are added, two on either side of the central opening to provide pockets for sliding doors 54. Window sashes 55 are fitted between the posts 53. These doors part at the middle, one sliding into each pocket. The manner of operating these doors does not form a part of my invention. The usual or any suitable car step 56 is applied at the sides of the platform and the car is complete as a closed or winter car.

I claim—

1. A car having its end walls provided with removable and interchangeable bulk heads, one of which is constructed to receive doors to adapt it for a closed car and the other of which is adapted to contain sashes or panels to provide a closed end wall for an open car, substantially as described.

2. A car having roof supporting posts suitably spaced to receive window sashes and provided with end walls having interchangeable sections to adapt it for a closed or for an open car and having removable window sashes and longitudinal panels for inclosing the side walls of the car, substantially as described.

3. A convertible car comprising a car body having posts to support its roof, removable seats, bulk heads having removable sections to provide door openings, and removable and attachable doors, seats, panels and windows whereby the car may be inclosed, substantially as described.

4. A convertible car comprising a car body having posts to support its roof, removable and interchangeable seats, bulk heads having removable sections to provide door openings and interchangeable with doors for said openings, and removable panels and windows for closing the spaces between the posts, substantially as described.

5. A car having roof supporting posts, removable seats adapted to be arranged within



the car facing each other and parallel to its side walls and removable longitudinal panels for inclosing said walls between the floor line and the top of the seats, substantially as described.

6. A car having roof supporting posts suitably spaced to receive windows between their upper portions, a sash rail and a belt rail removably secured to the posts, removable seats adapted to be secured within the car body parallel to its side walls and longitudinal panels attachable to and removable from the posts and adapted to inclose the space between the floor line and the tops of the seats, substantially as described.

7. In a car, the combination with roof supporting posts, of a removable sash rail and belt rail, means for removably securing them to the posts, a removable fender rail arranged intermediate the sash rail and the floor timbers, a removable seat secured with the belt rail and fender rail and longitudinal panels for inclosing the space between the sash rail and the fender rail and between the fender rail and the floor line, substantially as described.

8. In a car, the combination with the roof supporting posts, of a belt rail and a sash rail removably secured therewith, removable seats arranged parallel to the sides of the car, said seats having folding backs and the belt rail

being gained to engage the edge of the seat back, substantially as described.

9. In a car of the class described, the combination with roof supporting posts, of seats adapted to be arranged transversely of the car and having a bearing upon said posts and having arm rests removably secured to the posts whereby said seats may be removed in order to convert the car from the open to the closed type, substantially as described.

10. A convertible car having removable panels and windows for inclosing its sides and a removable foot board extending the full length of the car and the foot board interchangeable with removable steps opposite the ends of the platform, substantially as described.

11. In a car of the class described, the combination with the roof supporting posts, of a belt rail and a sash rail removably secured to said posts, a fender or guard rail also removably secured to said posts between the sash rail and the floor line, and short posts having a bearing on the fender rail, supporting the belt rail and removably secured to the roof supporting posts, substantially as described.

THOMAS H. WICKES.

Witnesses:

FREDERICK C. GOODWIN,  
C. C. LINTHICUM.