(No Model.) 2 Sheets—Sheet 1.

R. STEEL.

CONVERTIBLE STREET CAR.

No. 580,822. Patented Apr. 13, 1897.

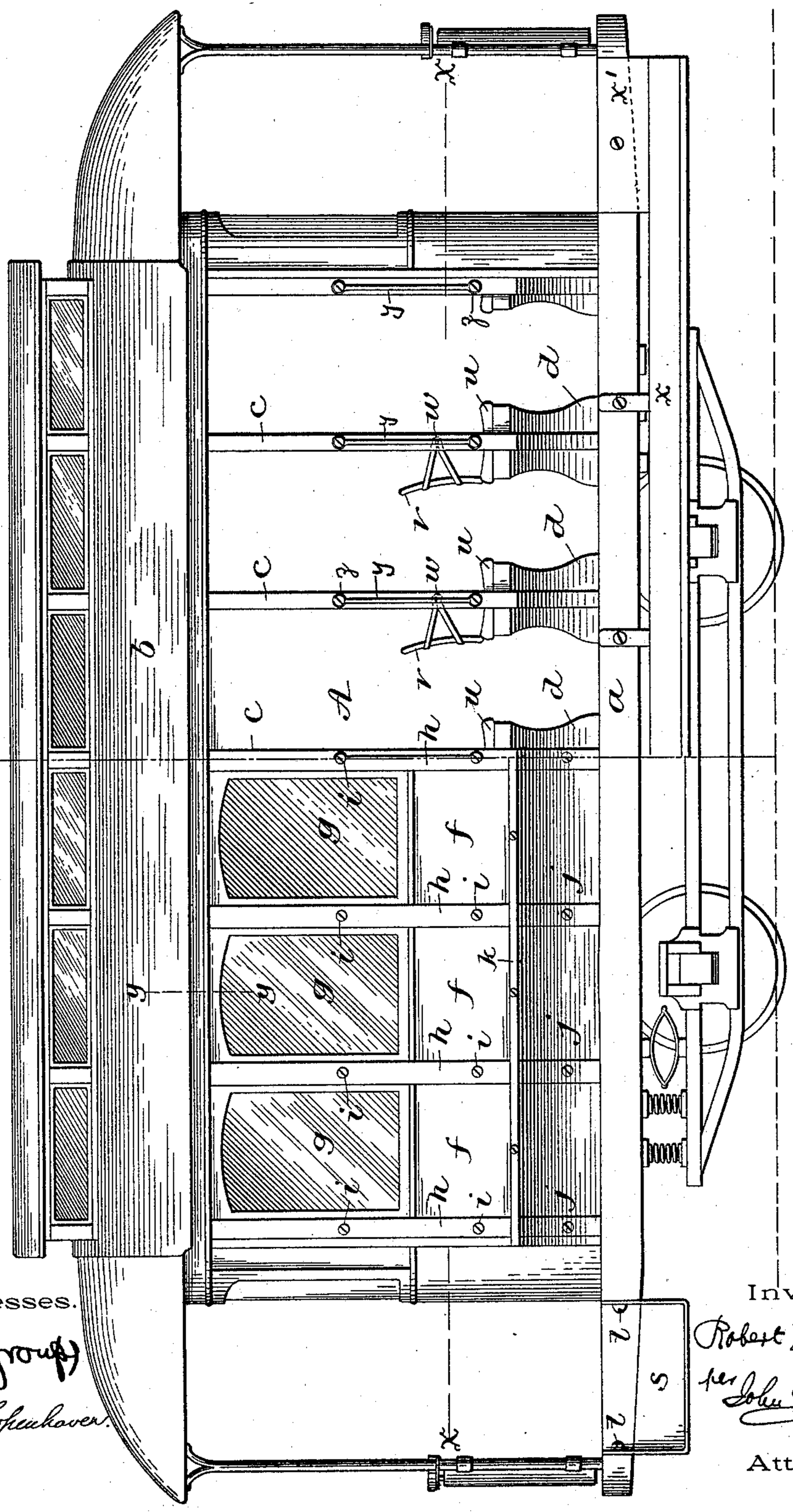

Fig. 1.

Witnesses.
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J. M. Coffenhaver.

Inventor.
Robert Steel,
per John F. Nolan
Attorney.

(No Model.) 2 Sheets—Sheet 2.

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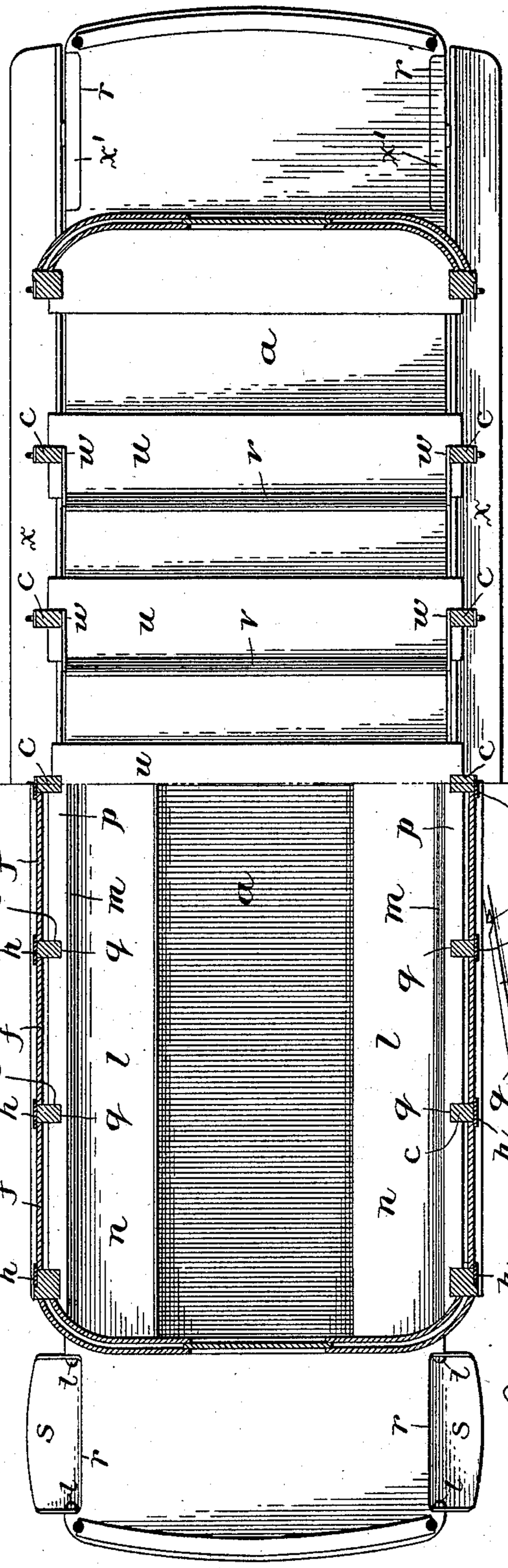

Fig. 2.

Fig. 4.

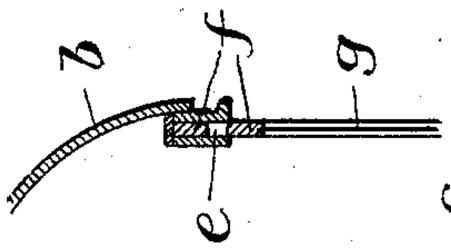

Fig. 3.

Fig. 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

ROBERT STEEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, CHARLES A. SPRING, WILLITS MACOMBER, AND LEWIS G. SCHMUCKER, OF SAME PLACE.

CONVERTIBLE STREET-CAR.

SPECIFICATION forming part of Letters Patent No. 580,822, dated April 13, 1897.

Application filed June 10, 1896. Serial No. 595,005. (No model.)

To all whom it may concern:

Be it known that I, ROBERT STEEL, a citizen of the United States, residing at the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Convertible Street-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The object of this invention is to provide a street-car that may be readily and effectually transformed from an open or "summer" car to a closed or "winter" car, and the converse, which car in either case shall in its appearance resemble in all respects the cars heretofore in use. By the provision of a convertible car of this character there is insured great economy in the storage-space for the cars, together with a material reduction of the amount of license-fees now payable in many cities for the two sets of cars.

In carrying out my invention I construct the car-body in the form of a skeleton frame, the roof being sustained by posts or uprights rising from the bottom of the car and panels being constructed to be detachably secured between the posts, together with detachable steps and seats and minor features of construction, which will hereinafter fully appear.

In the drawings, Figure 1 is a side elevation of a car, one-half thereof being fitted up as a closed car and the other half as an open car. Fig. 2 is a horizontal section as on the line $x\,x$ of Fig. 1. Fig. 3 is a vertical section as on the line $y\,y$ of Fig. 1. Figs. 4 and 5 are details in perspective of seats for use in the two forms of cars, respectively.

A represents the body of the car, whereof a is the floor, and b the roof, supported thereon by the side posts or uprights c. These posts are erected at intervals apart and are braced at their lower ends by the side pieces d.

In the lateral edges of the roof of the car are longitudinal grooves or channels e, into which are adapted to be fitted the upper ends of panels f, the lower ends thereof resting upon the floor of the car. These panels are each constructed to fit snugly between and flush with the adjacent posts, and they (the panels) are provided with sliding window-sashes g, similarly to the sides of an ordinary closed car. The sashes are held in place by means of metallic or other strips h, that are detachably affixed by screws i or other means to the intervening posts in such manner that each strip overlaps the adjacent edges of the adjoining panels. The lower portions of the panels, as also the corresponding portions of the posts, are curved inwardly, as at j, similarly to the sides of an ordinary car, and a strip or bead k is run along the angle or corner thus formed and secured to the successive panels, so as to aid still more effectually in securing the latter in place. When the panels are thus applied, a closed car is provided, and the same is equipped with longitudinally-arranged seats l, which resemble in general appearance and arrangement those of an ordinary closed car. These seats each comprise a back m, a seat portion n, and a vertical portion o. The back is provided with a ledge p, in which are cut at intervals corresponding with those of the vertical posts recesses q, which are adapted to embrace the posts, while the ledge rests upon and is supported by the side pieces d. The portion o rests upon the floor of the car and serves to sustain the seat. The edges of the platforms are offset or recessed, as at r, for the reception of the steps s, the side pieces of which are detachably held in place by screws t or other suitable means.

By the above-described construction it will be seen that by removing the beads k and the vertical strips h the panels may be readily detached from the car, thereby leaving the sides of the car open, similarly to an ordinary summer car; also that the seats and steps may be quickly removed. This being done, transverse seats u are fitted between the posts on the opposite sides of the car, the ends of the seats resting upon and being supported by the side pieces d. The usual swinging backs v for these seats are then pivoted between the posts, as indicated at w, which backs may thus be swung toward either edge of their respective seats, as the direction of movement of the car may require.

The open car is equipped with longitudinal

steps x, the same being provided with hangers that are detachably secured by screws or bolts to the bottom of the car. Each of these steps is also provided at its ends with pieces x', that enter and fill the recesses from which the previous steps have been removed.

The posts of the open or summer car thus formed are provided with handles y, the same being held in place by screws z, that enter those holes in the posts which receive the screws for holding the plates in place.

The advantages of a convertible car of the construction described is manifest. Aside from the fact that it materially reduces the cost heretofore incident to the construction of two separate sets of cars, my improved car, as above stated, insures economy in the storage-space and license-fees payable for two sets of cars of ordinary construction.

I claim—

1. A car whereof the body comprises a bottom, a roof laterally-disposed posts rising from said bottom and sustaining the roof, said posts having the side pieces or braces d at their lower ends, panels removably fitted between the said posts and between the roof and the floor, vertical strips detachably secured to said posts to overlap adjacent panels, longitudinally-disposed strips or beads k secured to the panels at their lower portions, and seats adapted to be removably supported on the side pieces or braces d and having notches which engage the said posts, substantially as specified.

2. A car whereof the body comprises a bottom, with end platforms having recesses to receive steps, a roof, laterally-disposed posts rising from said bottom and sustaining the roof, said posts having the side pieces or braces d at their lower ends, panels removably fitted between the said posts and between the roof and the floor, vertical strips detachably secured to said posts to overlap adjacent panels, longitudinally-disposed strips or beads secured to the panels at their lower portions, seats adapted to be removably supported on the said side pieces or braces and having notches which engage the said posts, and steps detachably secured to the said bottom and platforms and fitting within the recesses of the latter, substantially as specified.

3. A car whereof the body comprises a bottom, a roof, laterally-disposed posts rising from said bottom and sustaining the roof, said posts having side pieces or braces d at their lower ends, panels removably fitted between the said posts and between the roof and the floor, vertical strips detachably secured to said posts to overlap adjacent panels, the lower portions of said panels and also the corresponding portions of the posts and the side pieces or braces d being curved inwardly as described, a strip or bead run along the longitudinal angle or corner thus formed, and secured thereto, and seats adapted to be removably supported on the side pieces or braces d and provided with notches which engage the said posts, substantially as described.

4. A car whereof the body comprises a bottom, a roof, laterally-disposed posts rising from said bottom and sustaining the roof-panels removably fitted between the said posts and between the roof and the floor, vertical retaining-strips secured to said posts to overlap adjacent panels, screws or bolts for securing said strips to the posts, the screw or bolt holes in the latter being so located as to receive the screws or bolts for detachable handles when the strips are removed, and seats removably supported within the car, substantially as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

ROBERT STEEL.

Witnesses:
ANDREW V. GROUPE,
JOHN R. NOLAN.