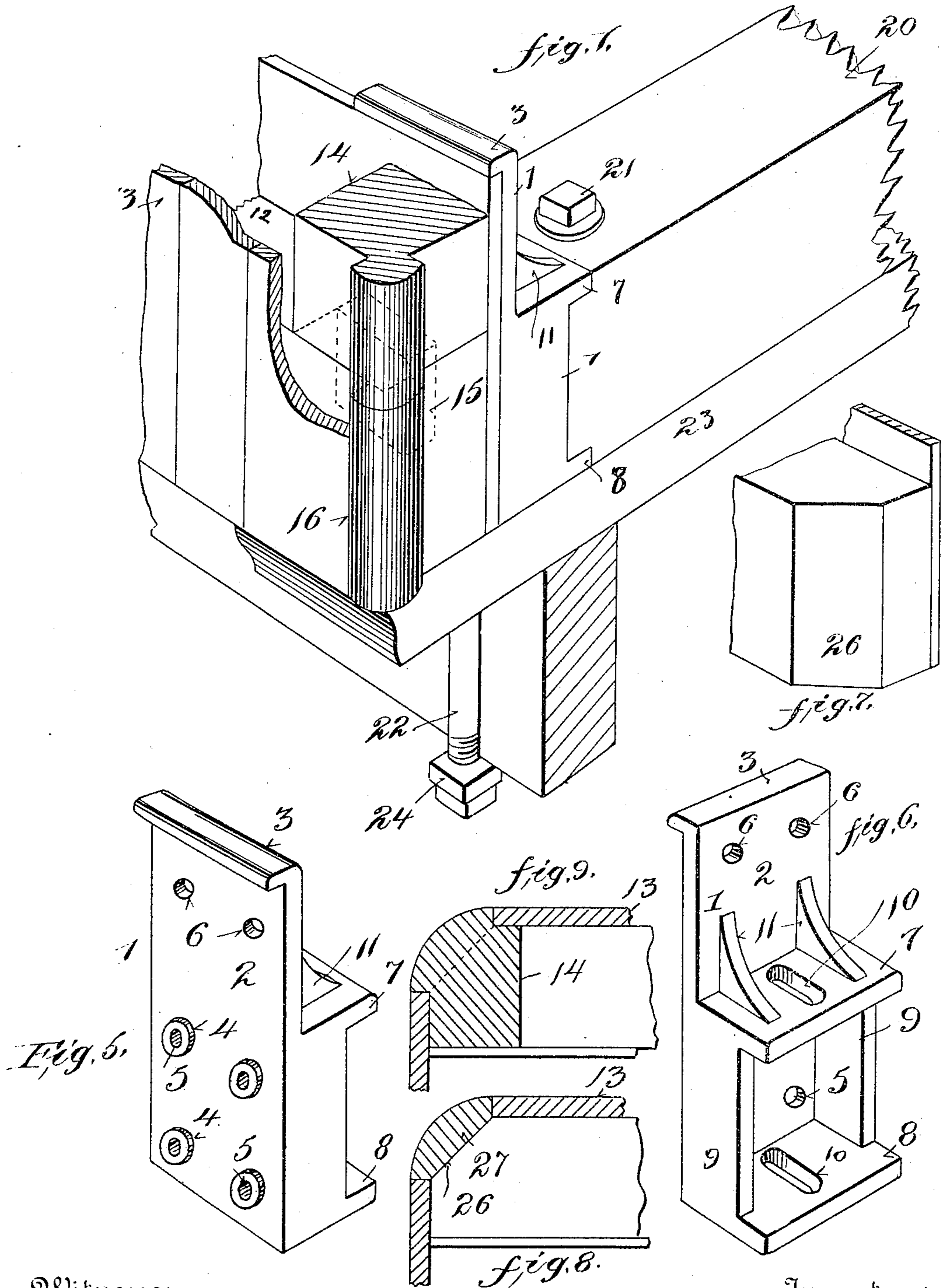


No. 784,356.

PATENTED MAR. 7, 1905.

W. M. SMITH.
CAR CONSTRUCTION.
APPLICATION FILED NOV. 4, 1904.

2 SHEETS—SHEET 1.



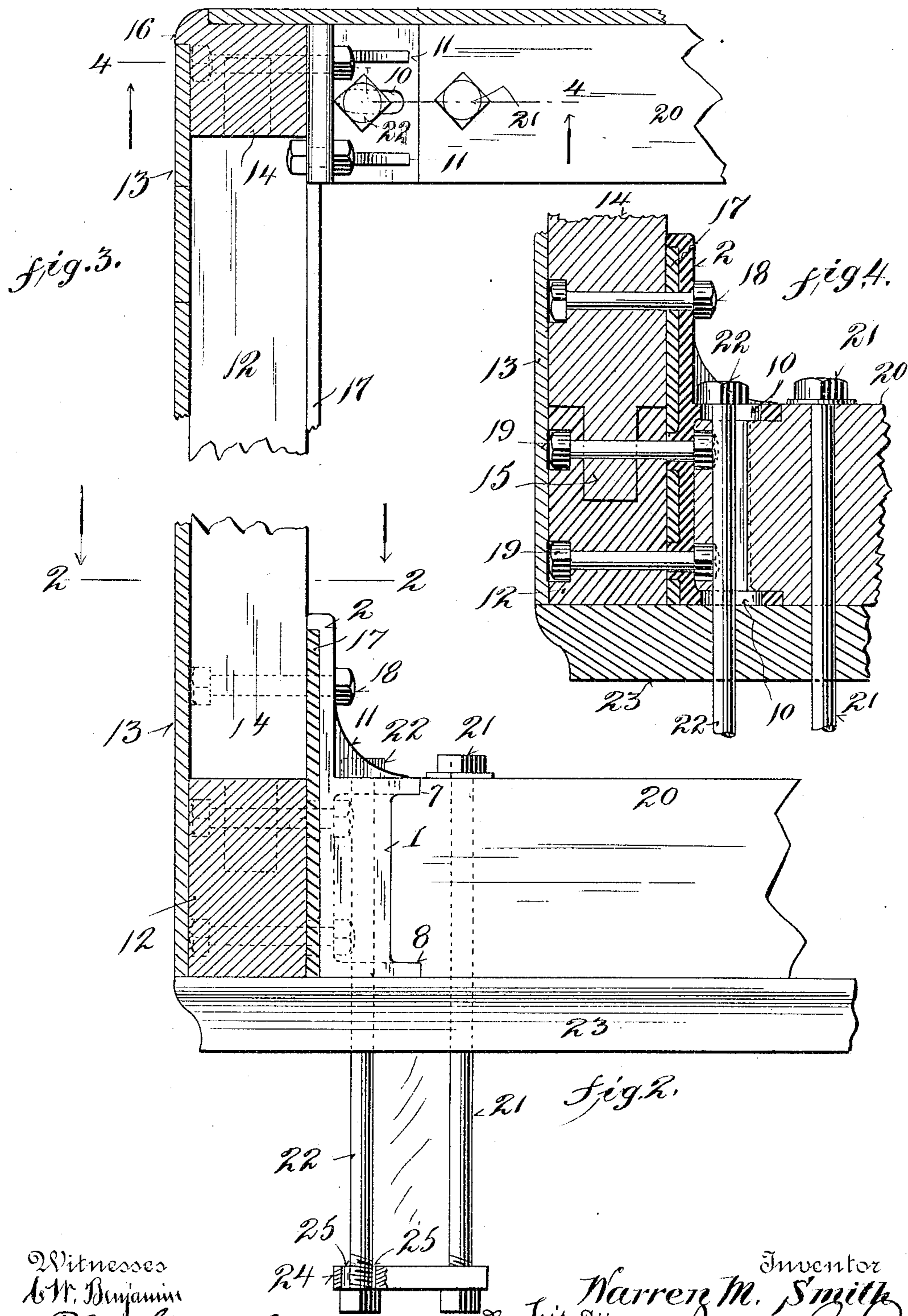
Witnesses
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Inventor
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 784,356, dated March 7, 1905.

Application filed November 4, 1904. Serial No. 231,341.

To all whom it may concern:

Be it known that I, WARREN M. SMITH, a citizen of the United States, and a resident of the borough of Prospect Park, county of Delaware, and State of Pennsylvania, have invented certain new and useful Improvements in Car Construction, of which the following is a specification.

My invention relates to the construction of cars, and has special reference to the construction of a novel end-sill casting and the general construction of a car as far as it relates to the combination of side and end sills and platform-knees and the novel disposition and arrangement of these parts whereby a reduction in the cost of construction, an increase of strength, and ease in the assemblage of parts is secured.

My invention resides in novel construction and combination of parts hereinafter described, and finally pointed out in the claims.

In the drawings forming part of this application, Figure 1 is a perspective view, partly broken away, showing a corner of a car constructed in accordance with my invention. Fig. 2 is a front elevation of Fig. 1, partly in section. Fig. 3 is a sectional plan taken substantially on the line 2 2 of Fig. 2 looking in the direction of the arrows. Fig. 4 is a vertical section taken substantially on the line 4 4 of Fig. 3. Figs. 5 and 6 are respectively perspective views showing front and rear of the sill chair or casting. Fig. 7 is a perspective view of the end of the sill when chamfered. Fig. 8 is a longitudinal cross-section through Fig. 7 when the stanchion is in place. Fig. 9 is a similar view taken through the stanchion above the sill.

In the several views like numerals of reference indicate corresponding parts.

I shall first describe the sill chair or casting, which is numerically indicated by the numeral 1. It consists of a single piece of metal, preferably cast, (although the same can be forged or made in several parts and secured together in any desired manner,) comprising the front or face plate 2, having an angularly-disposed lip 3 and outwardly-extending bosses 4, provided with apertures 5, extending

through the face-plate. The upper portion of the face-plate is provided with apertures 6. From the rear of the face-plate extend the upper and lower horizontal webs 7 and 8 and the webs 9, which together form a rectangular pocket for the cross-sill. In the upper and lower webs 7 and 8 I provide elongated apertures 10, and for the purpose of strengthening the walls I have provided brackets 11 between the upper walls 7 and the face-plate 2.

In the construction of street and similar cars a longitudinal side sill is generally provided, which in the drawings herein is shown at 12 and to which is secured the outer sheathing of the car. At the ends of the sills I have provided the usual post or stanchion 14, which has the square end 15 mortised in a recess in the side sill and a suitable end covering 16 to finish the edge of the post and sheathing. In the inner side of the side sill I have applied a flat metal sill-plate 17, which is bolted to the sill and stanchions. The chair 1 is attached to the sill-plate by means of bolts 18, which pass through the stanchions in which they are countersunk and through the sill-plate and also through the aperture 6 on the face-plate 2 of the chair, whereby all three are held firmly together. Other bolts 19 are similarly attached through the sill and through the apertures 5 in the lugs of the chair, where they are bolted in a manner similar to the bolt 18, the lugs 4 being received in the apertures of the sill-plate provided therefor, and the upper flange 3, resting on top of the sill-plate, serves to take the downward strain off the bolts. The cross-sill 20 may be of any desired construction, the end of which is firmly held in the rectangular pocket of the chair by means of the bolts 21 and 22. The cross-beam 23 is secured under the end of the side sill and throughout the length of the cross-sill, against which the platform-knees of the car are adapted to be secured. As a means for securing the cross-sill, platform-knee, and plank 23 together and to allow for the interchangeability of different platform-knees, which may vary somewhat in width, I have provided the bolts 21 and 22 with the cross-piece 24, the lower end having a slotted aperture 25, where-

by the bolt 22 may be adjusted in the slots 10 and 25 to conform to the varying width of the platform-knees.

While the construction relating to the finishing of the stanchion at its lower end heretofore described may be utilized, I prefer for the sake of simplicity and appearance to employ the means shown in Figs. 7, 8, and 9. In this construction the end of the side sill is chamfered at 26, and the stanchion 14 is provided with a lower integral extension 27, which passes down over the chamfered end of the sill and is rounded on the outside and is made flush with the sheathing of the side and end.

In this manner I have not only provided a rigid construction of the side, end sill, stanchion, and platform-knees, but also provided a simple and efficient means of adjusting the latter.

Having described my invention, what I claim is—

1. A railway-car having a side and end sills, a sill-plate secured to the side sill, and a chair for the end sill secured to the sill-plate, and means for securing the side end sills and chair together.

2. A railway-car having side and end sills, a sill-plate secured to the side sill, a chair for the end sill having a flange adapted to rest on the sill-plate, and means for securing the side and end sills and chair together.

3. A railway-car having side and end sills, a sill-plate secured to the side sill, a chair provided with a pocket to receive the end sill, and having a flange and lugs adapted to engage with the said sill-plate and means for securing the said sills and chair together.

4. A railway-car having side and end sills, a chair adapted to receive said end sill, and secured to the side sill, a platform-knee and means for securing the chair, end sill, and platform-knee together.

5. A railway-car having side, end sills, and a stanchion, a sill-plate secured to the side sill

and stanchion, and a chair provided with a pocket to receive the end sill and secured to the said sill-plate.

6. A railway-car having side and end sills, a sill-plate secured to the side sill, a chair to receive the end sill, and secured to the said sill-plate, apertures in the said end sill, a chair and bolts therein, adapted to hold the platform-knees, end sill and chair together.

7. A railway-car having side and end sills, a sill-plate secured to the side sill, a chair to receive the end sill and secured to the said sill-plate, said chair being provided with elongated apertures, the end sill provided with apertures, platform-knees and bolts passing through said apertures adapted to secure the said platform-knees.

8. A railway-car having side and end sills, a sill-plate secured to the side sill, a chair adapted to receive the end sill, and secured to said plate, the chair and end sill being provided with apertures therein, a beam 23, platform-knee and bolts passing through the apertures in said chair and sill, adapted to secure the platform-knees, plank 23, end sill, and chair together.

9. As an article of manufacture, a chair having a pocket to receive an end sill and a flange 3 adapted to engage the sill-plate.

10. As an article of manufacture, a chair having a pocket to receive an end sill, lugs on the chair, and a flange 3 adapted to engage the sill-plate of the railway-car.

11. A railway-car having a side sill, the end of which is chamfered, an end sill, stanchion resting on the side sill and having a projection on the lower end adapted to lie on the chamfered part of the side sill, and sheathing on said sills.

Signed this 26th day of October, 1904.

WARREN M. SMITH.

Witnesses:

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