

1,062,732.

E. POSSON.
CAR FRAMEWORK.
APPLICATION FILED MAR. 1, 1909.

Patented May 27, 1913.

6 SHEETS—SHEET 1.

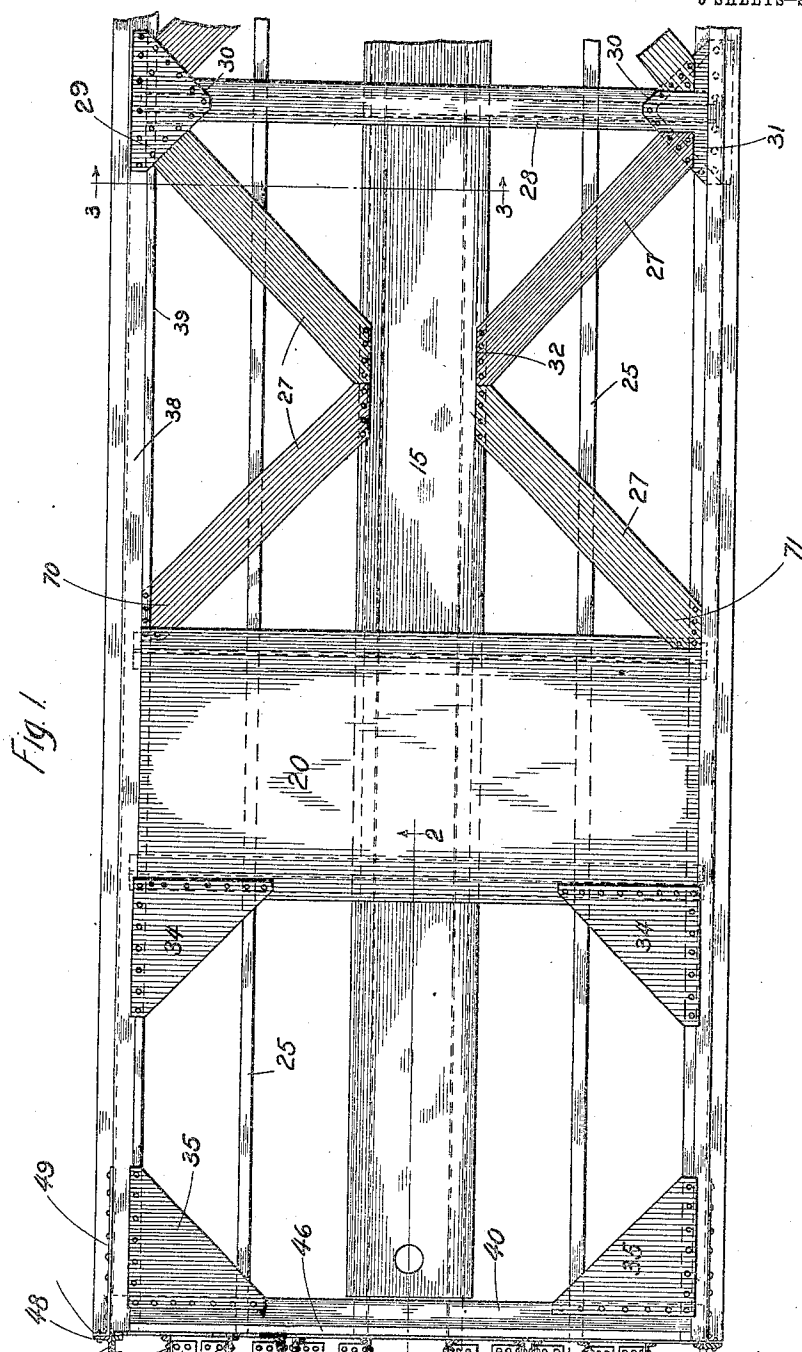


Fig. 1.

Witnesses:

Wm. A. Parks
Henry A. Parks

By *45*
Sheridan, Wilkinson, & Scott, Attys

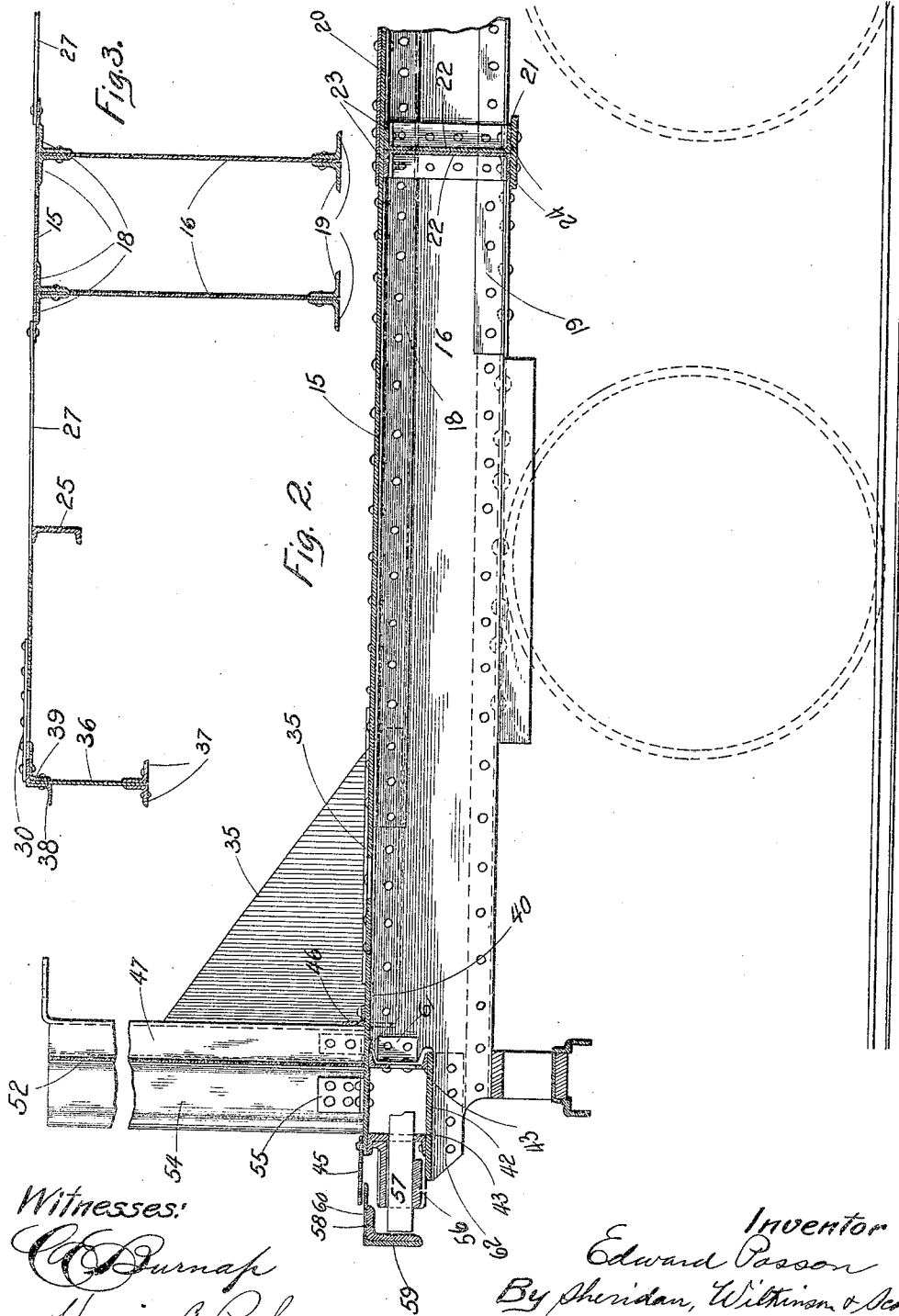
Inventor
Edward Posson

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5 SHEETS—SHEET 2.



Witnesses:
W. Durnap
Henry A. Parks

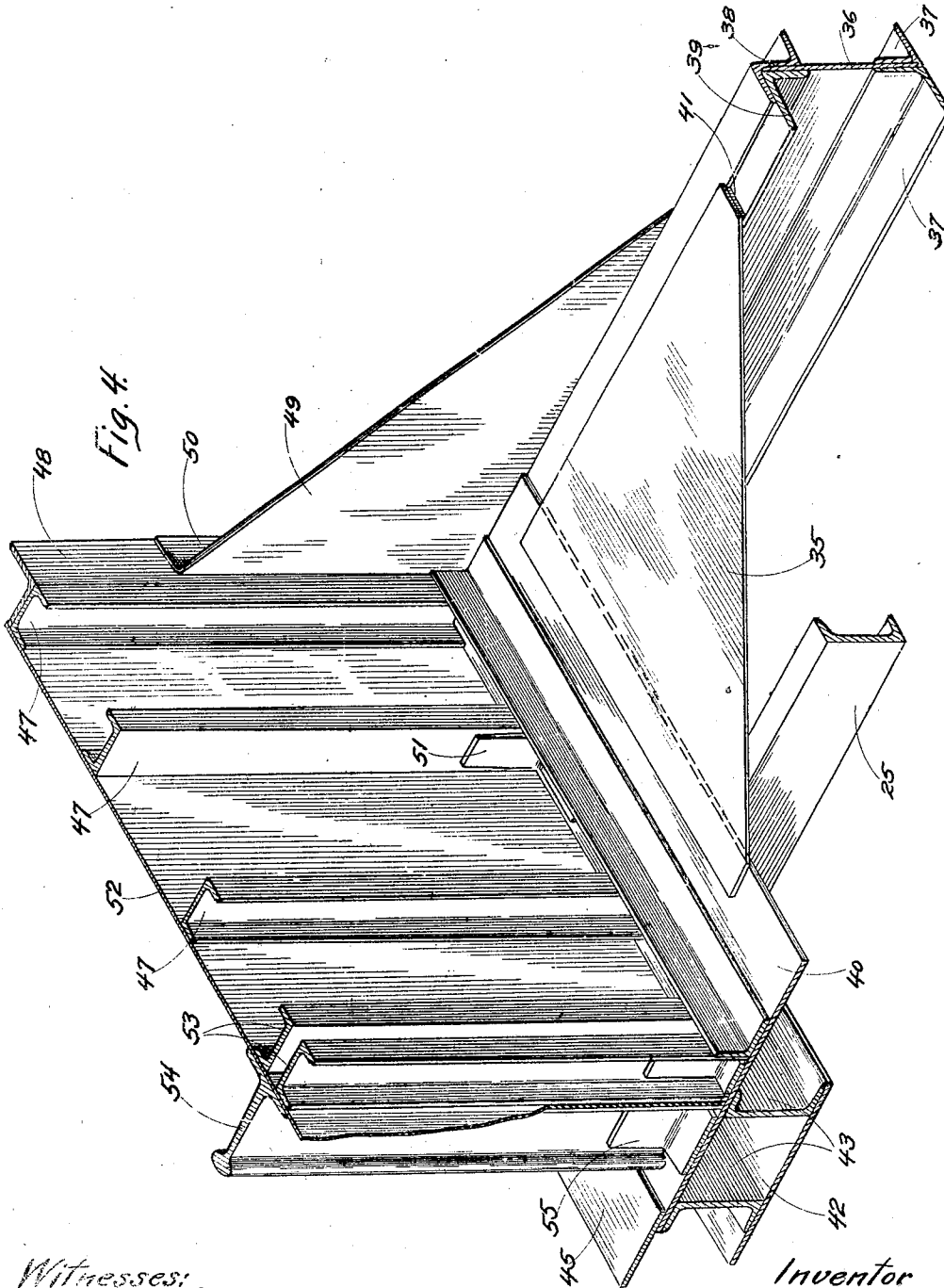
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5 SHEETS—SHEET 3.



Witnesses:

C. Durnap
Henry A. Parks

Inventor

Edward Posson

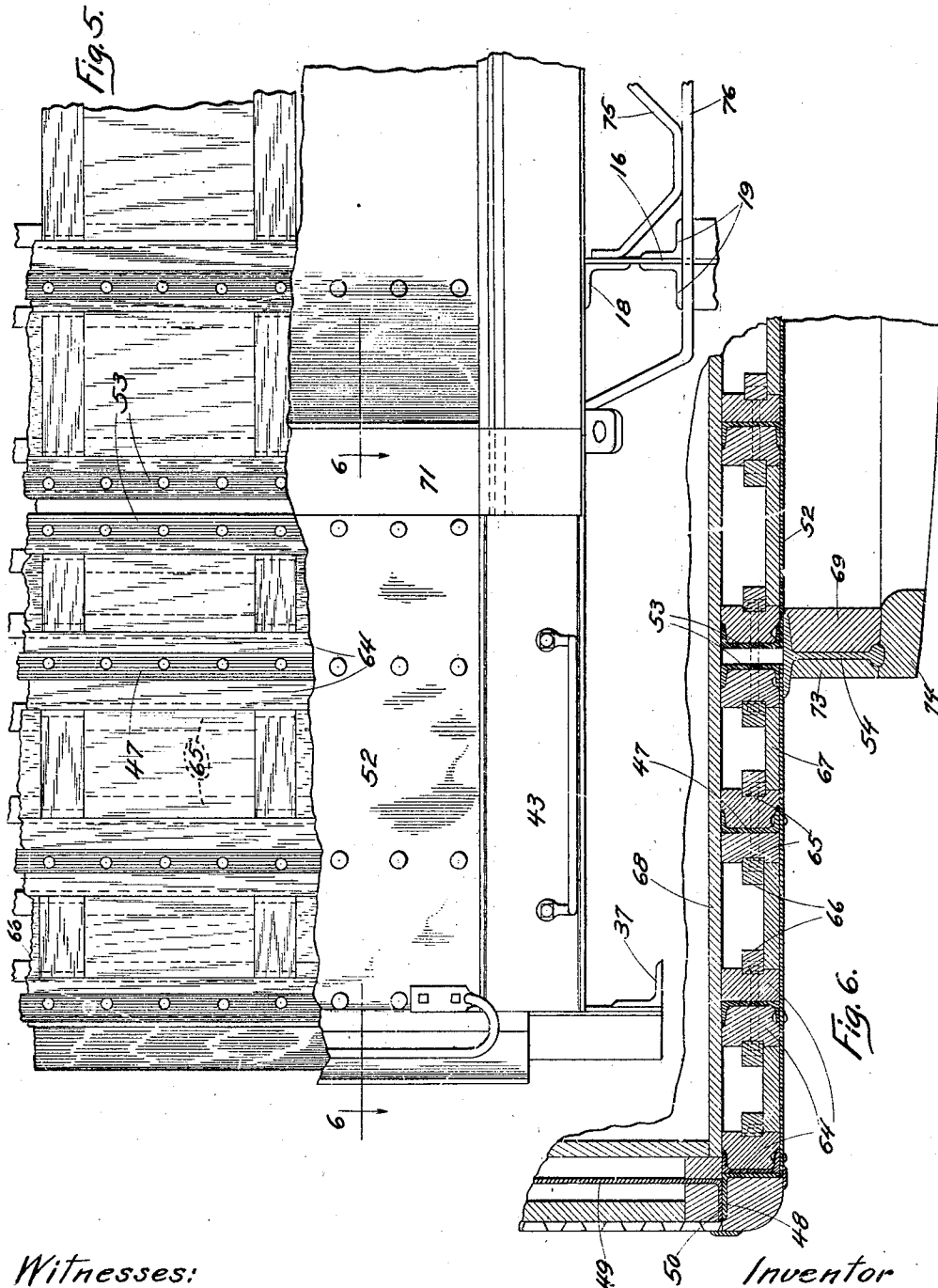
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5 SHEETS—SHEET 4.

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Witnesses:

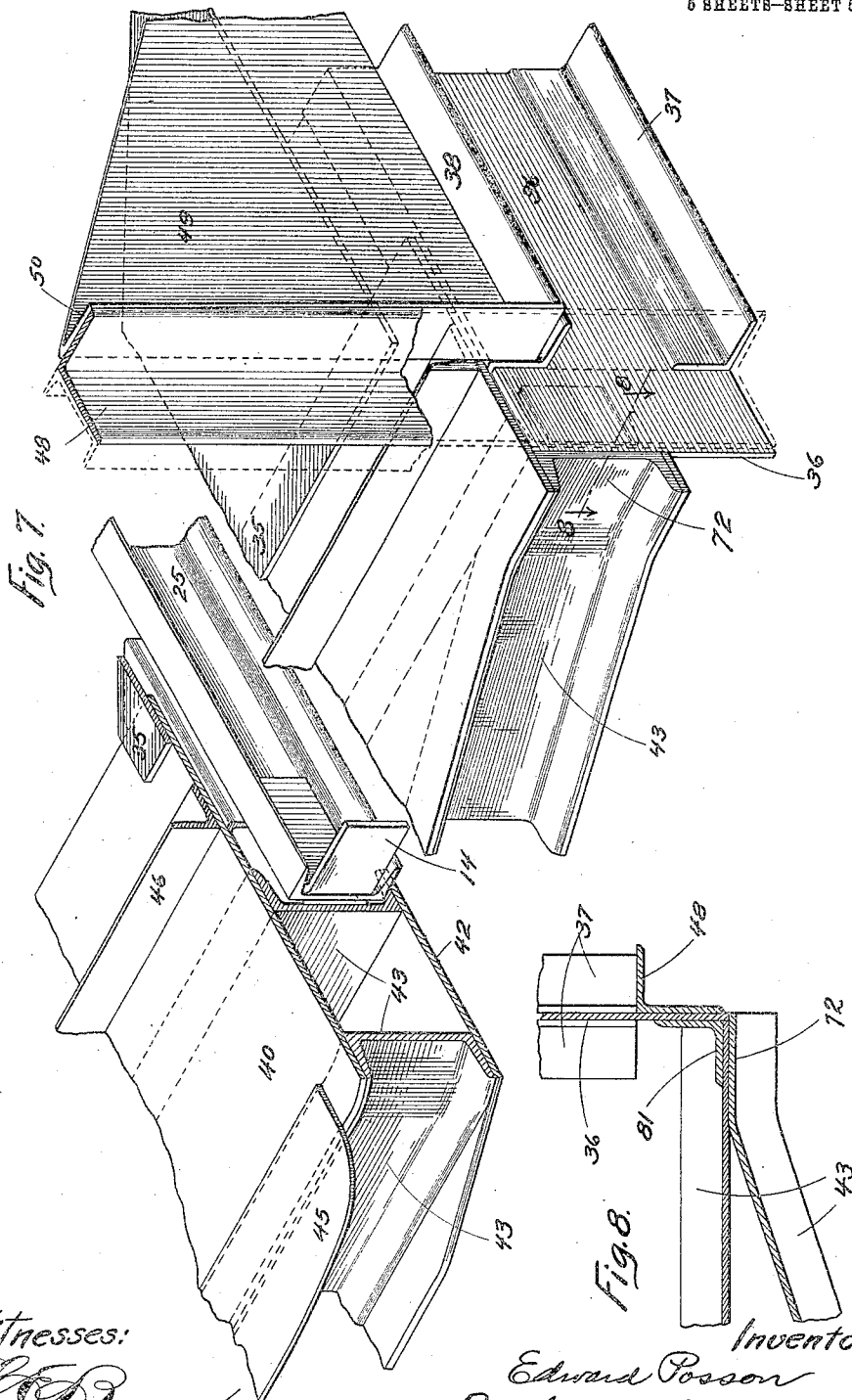
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Patented May 27, 1913.

6 SHEETS—SHEET 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF CHICAGO, ILLINOIS.

CAR-FRAMEWORK.

1,062,732.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed March 1, 1909. Serial No. 480,680.

To all whom it may concern:

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Framework, of which the following is a specification.

The principal object of my invention is to provide a new and improved steel frame-work for railway cars.

Another object is to provide a new and improved underframe with suitable diagonal bracing.

Another object is to provide an improved end sill.

Still another object is to provide a new and improved end wall frame for a car.

All these objects and others will be made more fully apparent in the following specification.

The invention consists of the combination of elements stated in the appended claims.

In the accompanying drawings I have illustrated one specific embodiment of my invention, which is one of the forms at present preferred by me.

Figure 1 is a top plan view of the underframe. Fig. 2 is a longitudinal section on the line 2, 2 in Fig. 1. Fig. 3 is a transverse section on the line 3, 3 of Fig. 1. Fig. 4 is a perspective view showing the end sill and side sill in section. Fig. 5 is an end elevation showing the end wall of the car partly broken away. Fig. 6 is a horizontal section on the line 6, 6 in Fig. 5. Fig. 7 is a perspective view of the corner of the underframe, the end sill being partly broken away to more clearly show its structure. Fig. 8 is a horizontal section taken on the line 8, 8 in Fig. 7.

The center sill of the car comprises two parallel longitudinal vertical plates 16 reinforced along their upper edges by means of the angle irons 18 and along their lower edges by means of the angle irons 19. A horizontal plate 15 overlies the plates 16 and is riveted to the angle irons 18. The body bolster consists in part of a broad plate 20, which extends across continuously from side to side of the car passing above the center

sill 15. Beneath this plate 20 are transverse channel beams 22 (see Fig. 2) and beneath them are narrow transverse plates 21, which extend continuously across from side to side of the car. The upper flanges 23 of the channel beams 22 are riveted to the top bolster plate 20 and the lower flanges 24 are riveted to the bottom plate 21.

The intermediate sills 25 are channel beams, as shown in Figs. 3, 4 and 7. At their ends they are attached to the end sill by means of the corner angles 14, as shown in Fig. 7. The transverse members of the underframe each comprise an upper plate 28 (see Fig. 1), which extends continuously from one side sill to the other. The rectangular spaces in the underframe bounded by the side sill and by the transverse members (including the body bolster) are braced diagonally by the members 27. At the corners where a transverse member 28 meets a side sill the joints are overlaid with gusset plates 30 and the ends of the diagonal braces 27 either pass under these gusset plates, as indicated by the reference numeral 29, or above them, as indicated by the reference numeral 31 in Fig. 1. The other ends of the diagonal braces 27 are riveted to the top plate 15 of the center sill, as indicated by 32. Those diagonal braces 27 which meet the body bolster have their ends lapped under the top plate 20, as shown at 70 or lapped over the same, as shown at 71 in Fig. 1.

The corners of the rectangular space bounded by the side sills, the body bolster, and the end sill are braced by the gusset plates 34 and 35, as shown in Fig. 1. Each side sill consists of a longitudinal plate 36 in a vertical plane having its lower edge reinforced by angle irons 37. Another angle iron 39 extends along the inside upper edge of the plate 36 and this is overhung by the Z-bar 38.

The end sill comprises a broad overlying plate 40 and a somewhat narrower underlying plate 42. Between these two plates are two channel beams 43, as shown in Figs. 4 and 7. The innermost channel beam 43 extends straight across from side to side of

the car while the other one has its ends bent back, as shown in Figs. 7 and 8, so as to bring the webs of the two channel beams together at the ends, as indicated by the reference numeral 72. An extension plate 45 is riveted to the upper part of the end sill and projects out over the buffer plate 58—59. This buffer plate is overlaid by a horizontal plate 60 which slides in and out under the plate 45. The buffer plate 58—59 is supported on the stem 57, which slides in the cast iron socket 56 riveted to the end sill. An angle iron 46 is secured to the top plate 40 of the end sill and the vertical channel beam posts 47 have their lower ends adjacent to this angle iron 46 secured in place by the corner angles 51. At the corners of the car the wall is further reinforced by the vertical corner angle irons 48. These are braced with respect to the side sills by means of the diagonal gusset plates 49, each having a flange 50 riveted to the angle iron 48. The corner angle irons 48 extend down and are secured to the side sill plates 36 and to the corner angle pieces 81, as shown in Fig. 8. The sheet iron end wall 52 is attached to the end wall post 47. At the center of the end wall the vertical channel beam posts are doubled, as indicated by the reference numeral 53, and reinforced by the structural member 54, this being the basis for a frame that will match the vestibule opening on an adjoining car to which the car now being described may be coupled. The members 54 are secured at their lower ends to a sill by means of the corner pieces 55. The extremities of the center sill plates 16 are notched to receive the end sill, as shown in Fig. 2, the parts being attached together by means of the corner pieces 61 and the part 62 projecting underneath the bottom plate 42 of the end sill.

Fig. 6 shows how the end wall is built up around the end wall frame. The wooden blocks 64 are fitted closely against the channel beams 47 and braced apart by the boards 67. Grooves 65 in the blocks 64 are filled with cleats 66 which form supports for the boards 67. The false vestibule frame is built up around the steel member 54, as indicated by the reference numerals 69, 73 and 74 in Fig. 6.

The drawbar support depending from the end sill is indicated by the reference numerals 75 and 76 in Fig. 5.

It will be observed that the structure that has been described is adapted to fulfil the objects stated at the beginning of this specification. The system of diagonal bracing for the underframe gives it great strength in proportion to the amount of material employed. The end sill built up of overlying and underlying plates with channel beams

between them is very strong and is simple to build. Various other advantages will be apparent to those skilled in the art.

I claim:

1. An end sill comprising two channel beams, and overlying and underlying plates adjacent to the flanges of said channel beams.

2. An end sill comprising two channel beams with their webs in vertical planes, one of said channel beams having its ends bent so as to make the webs adjacent at the ends but leaving them spaced apart and parallel in a horizontal direction between the bent portions.

3. An end sill comprising two channel beams with their webs in vertical planes, one of said channel beams having its ends bent so as to make the webs adjacent at the ends but leaving them spaced apart between the ends, and plates overlying and underlying the channel beams adjacent to the flanges thereof.

4. An end sill comprising two channel beams with top and bottom plates adjacent to the flanges thereof, the top plate being extended rearwardly beyond the channel beams.

5. In a car framework, a side sill, an end sill comprising two channel beams overlaid by a plate, and a triangular gusset plate with one edge attached to the side sill and another edge attached to said overlying plate of the end sill.

6. In a car framework, an end sill comprising two channel beams with their webs adjacent at their ends but spaced apart between the ends, a side sill comprising a vertical plate with its end meeting the extremity of the end sill, and an angle corner post and a corner piece attached to all of said elements.

7. In a car framework, an end sill comprising channel beams overlaid by the top plate, an angle iron extending across the car with one flange adjacent to said top plate, end wall posts with their lower ends on the top plate adjacent to said angle-iron, and corner pieces attached to said end posts and to said top plate.

8. In a car framework, a center sill having a notch at its end on the upper side, in combination with an end sill in said notch, said end sill comprising a horizontal under plate resting in the notch, channel beams on said under plate, and a top plate on said channel beams, said top plate extending back over the center sill.

9. In a car framework, an end sill comprising two channel beams, having their intermediate portions spaced and parallel in a horizontal direction and their end portions adjacent, a side sill having its end ad-

5 jacent to the end of the end sill, a corner post at the intersection of said side and end sills having its lower end attached to the end of the side sill, and a gusset plate having one edge attached to the side sill and another edge flanged and attached by said flange to the corner post above the side sill.

In testimony whereof, I have subscribed my name.

EDWARD POSSON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."