

No. 832,487.

PATENTED OCT. 2, 1906.

W. F. KIESEL, JR.
RAILWAY CAR FRAME.
APPLICATION FILED MAY 3, 1906.

5 SHEETS—SHEET 1.

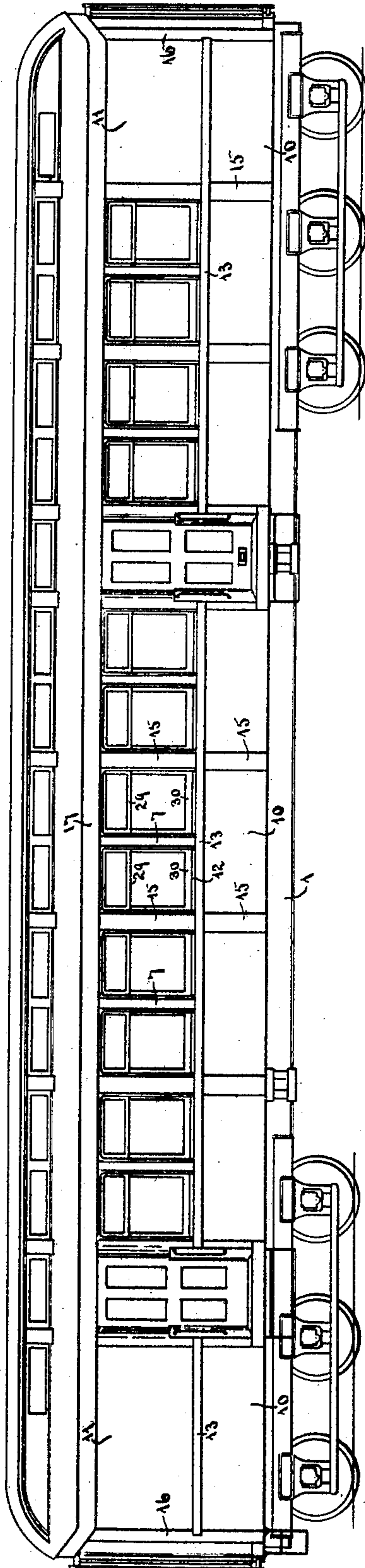


Fig. 1.

WITNESSES:

J. A. Buier
L. V. Stoltz

INVENTOR

William F. Kiesel, Jr.

BY

Eugene Diven
ATTORNEY

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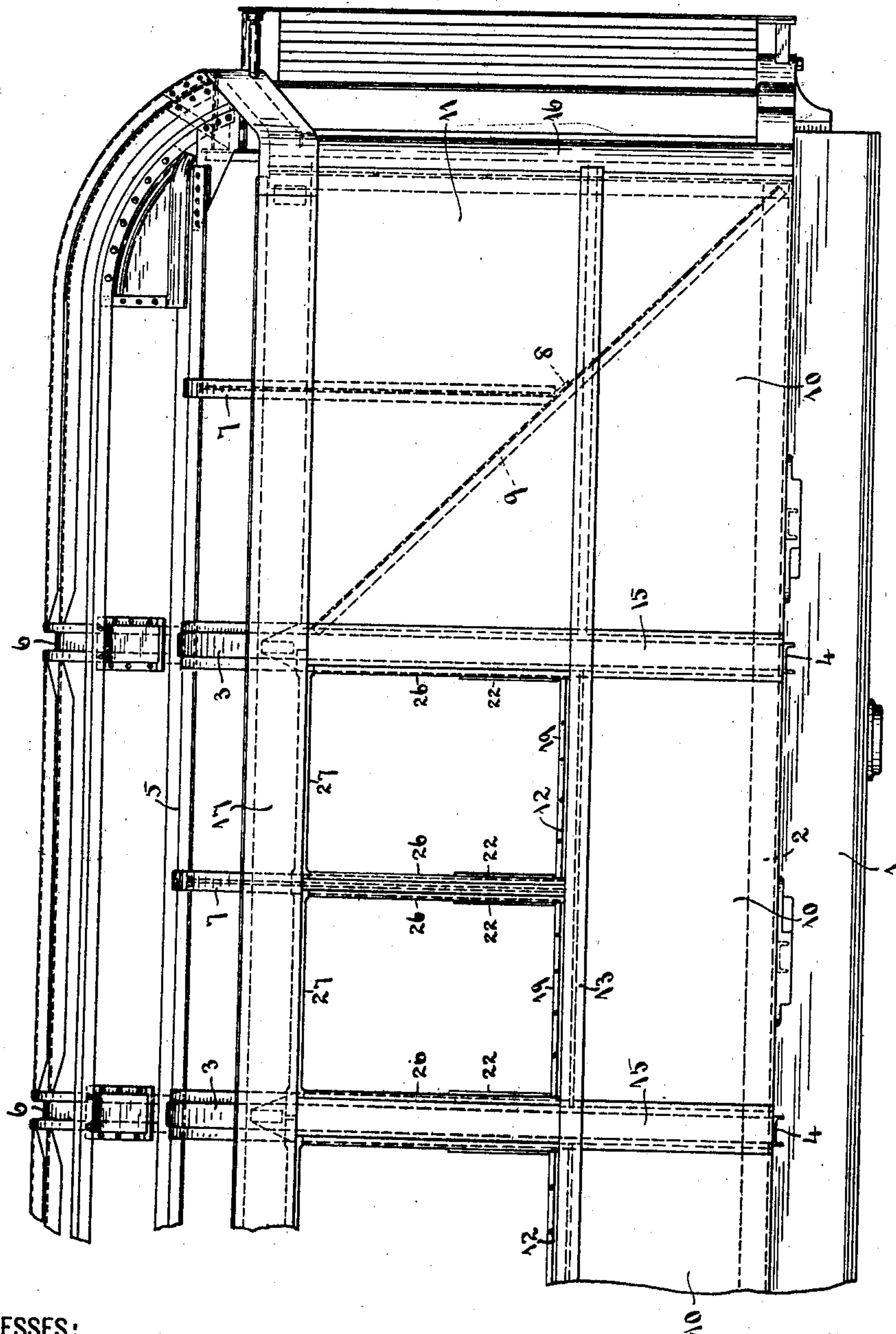


Fig. 2.

WITNESSES:

J. H. Brien
L. V. Stoeltgen

INVENTOR

William F. Kiesel, Jr.

BY

Eugene A. Dixon
ATTORNEY

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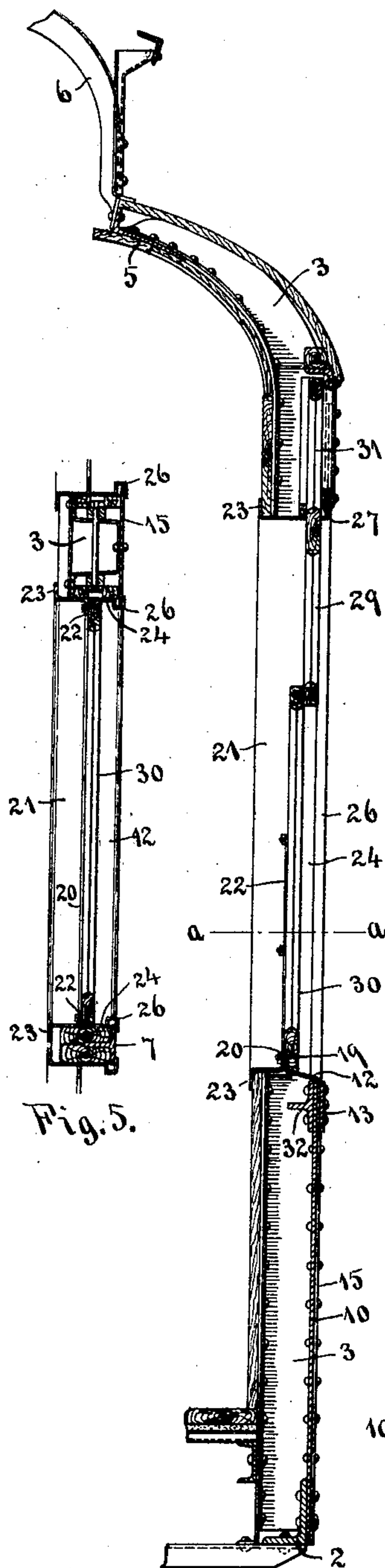


Fig. 5.

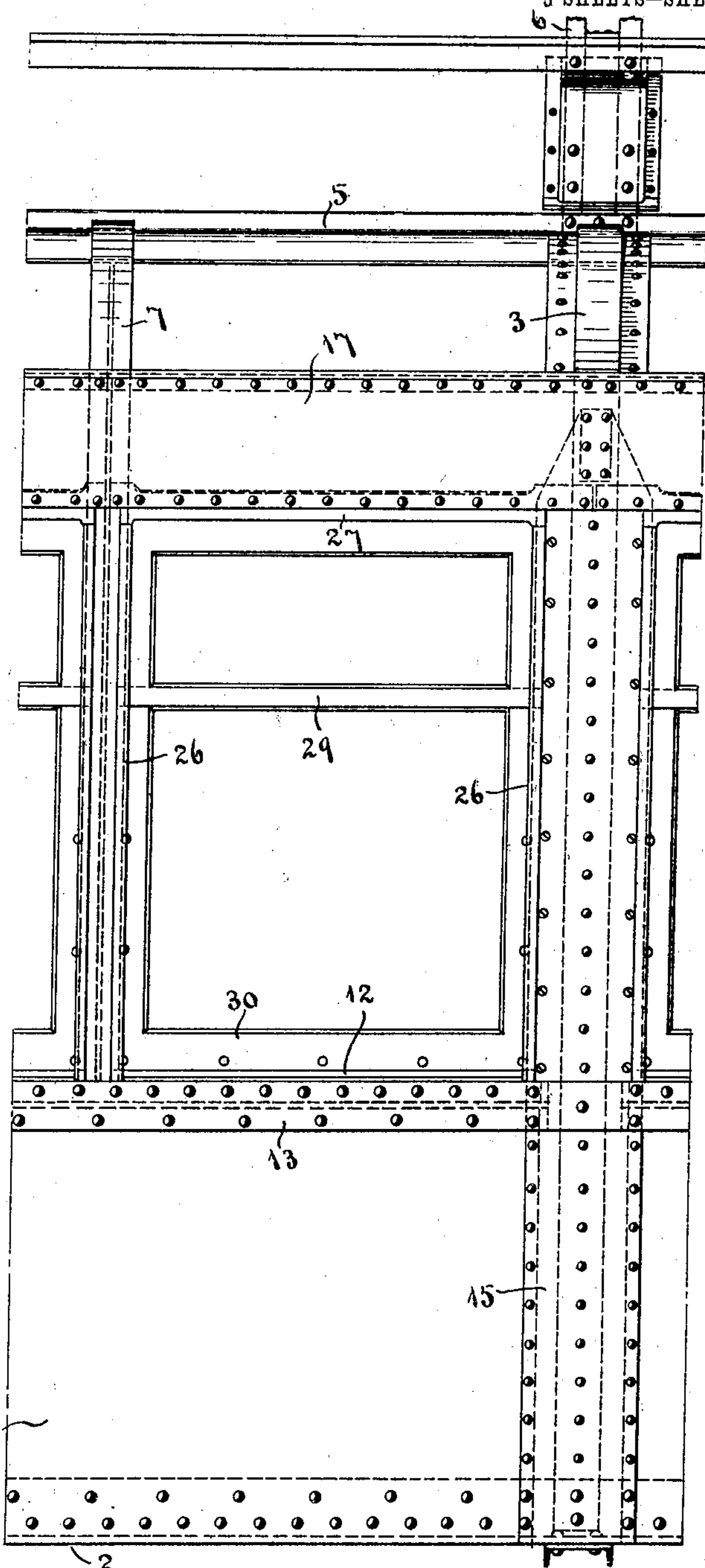


Fig. 3.

WITNESSES: Fig. 4.

J. H. O'Brien
L. V. Stoltz

INVENTOR

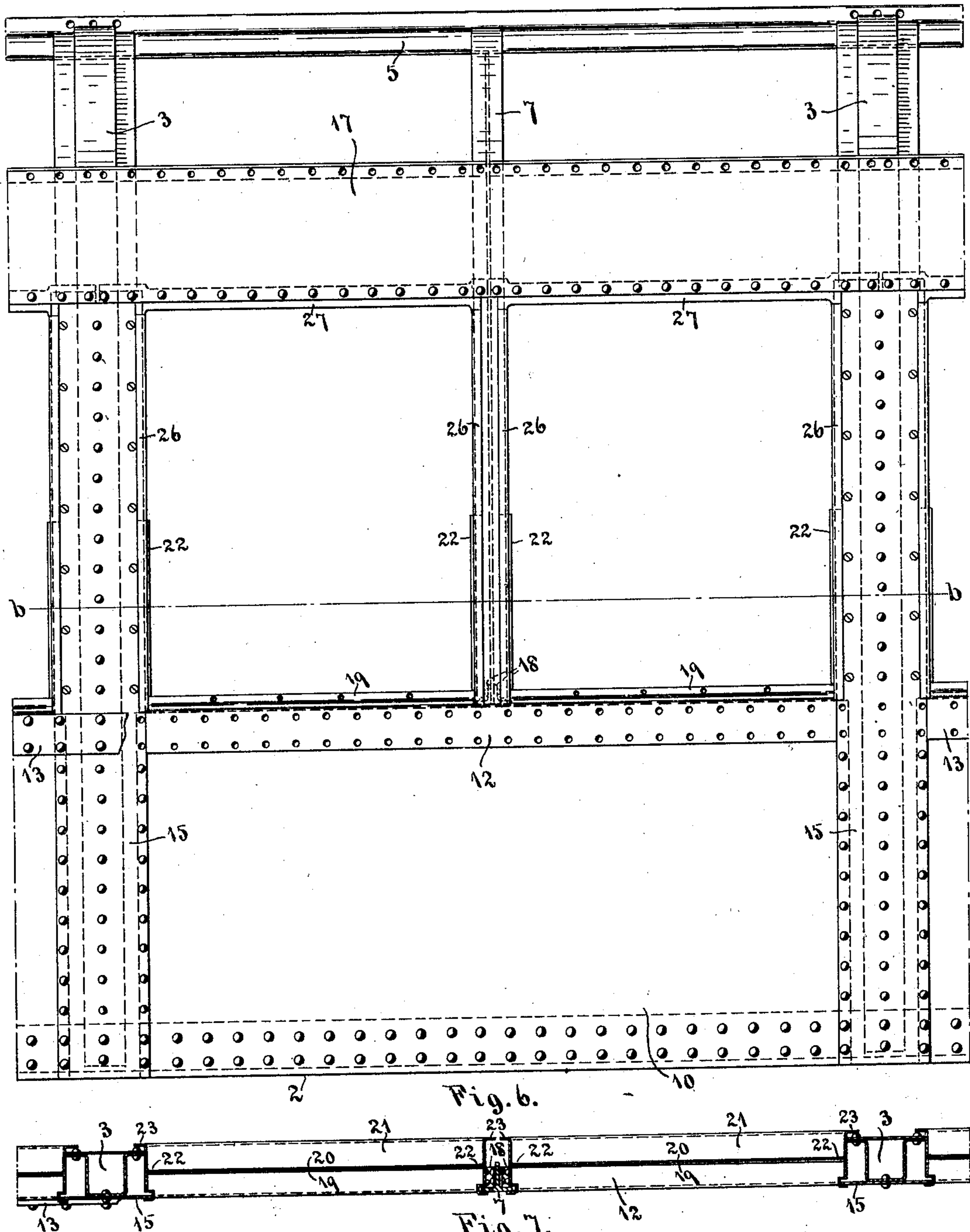
William F. Kiesel, Jr.
BY
Eugene A. Diven
ATTORNEY

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5 SHEETS—SHEET 4.



WITNESSES:

J. H. O'Brien
L. V. Stoelty

INVENTOR

William F. Kiesel, Jr.

BY

Eugene Diven
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM F. KIESEL, JR., OF ALTOONA, PENNSYLVANIA.

RAILWAY-CAR FRAME.

No. 832,487.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed May 3, 1906. Serial No. 315,019.

To all whom it may concern:

Be it known that I, WILLIAM F. KIESEL, Jr., a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Car Frames, of which the following is a specification.

This invention relates to improvements in steel railway-cars, and has to do more particularly with the arrangement of the body portion of the car described in my copending application filed April 14, 1906, Serial No. 311,715, to adapt it for the postal service, my object being to provide a light, strong, and well-braced framework and outside sheathing for the car-body between the ends to give to the car sides the requisite strength and stiffness where cut out for the window and side-door openings.

A further object is to provide a construction of the window-frames which will be particularly adapted to this style of car.

I attain my object by constructing and arranging the parts of the car-body and window-framing substantially as illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a complete postal car embodying my present improvements; Fig. 2, a side elevation, upon a larger scale, of one end of the car, portions of the framework being shown in skeleton form; Fig. 3, a portion of a side panel, showing the window construction; Fig. 4, a transverse section of Fig. 3; Fig. 5, a longitudinal section on the line *a a* in Fig. 4; Fig. 6, a side elevation of one of the side panels, showing still further details of the window-framework; Fig. 7, a longitudinal section on line *b b* in Fig. 6; Fig. 8, an elevation of one of the inside window-casings as viewed from the outside; Fig. 9, a vertical section through one of the window-casings; Figs. 10 and 11, sections of the casing on the line *c c* and *d d*, respectively, in Fig. 9; and Figs. 12 and 13, a plan and side elevation of one of the window-sill plates.

Like numerals designate like parts in the several views.

The main framework of the car is built up from a continuous center sill 1 of box-girder type in the manner described in my said copending application, Serial No. 311,715, and comprises angle-bar side sills 2, from which the main frame-posts 3 rise at suitable intervals throughout the length of the car, divid-

ing the sides of the car into panels of a width to provide two window-openings. Where the side doors are located, however, the main frame-posts are preferably set closer together, so as to provide door-posts at each side of the doors, these doors for a postal car being narrower than those provided for baggage-cars, as described in my said copending application. The framework for these doors, however, will be substantially the same as that described in said application, and therefore requires no further description herein. From the foot of each frame-post 3 a transverse brace 4 extends to the center sill, and the upper ends of the posts are bent inward to form lower-deck carlines, their inward ends being riveted to the longitudinal brace-angles 5, which extend continuously from one end to the other of the car and are secured at each end to the car end framework, this end framework being the same in construction as that described in my said copending application. Between the carline extensions of the main frame-posts upper-deck carlines 6 pass across the car and are united by longitudinal brace members in the same manner described in my said application.

Between the main frame-posts are shorter intermediate posts 7, preferably of T shape cross-section and having their upper ends bent inward to form additional lower-deck carlines, said ends being secured to the longitudinal angles 5. At the ends of the car there are solid panels closed in by the lower and upper sheathing-plates 10 and 11, which are riveted in between the cover-plates 15 and 16 of the side and corner posts, respectively. Diagonal braces 9, consisting, preferably, of angle-bars, extend from the foot of the corner-posts to near the upper end of the side posts, said angles being riveted to the sheathing-plates and providing additional stiffness to these end panels. Intermediate posts 7 are positioned between the corner-posts and side frame-posts in these panels, said intermediate posts being secured at 8 to the diagonal braces 9 to provide the necessary support for the upper-deck roof and for the ends of the top side plates 17.

A belt-rail 13 extends from corner-post to corner-post through the length of the car at each side, except where cut away for the side-door openings, said belt-rails passing across the cover-plates 15 at the outside thereof and being riveted thereto. At the ends of the car the belt-rails constitute splice-plates be-

tween the upper and lower sheathing-plates, and in the side panels, where the window-openings are located, the lower sheathing-plates extend up inside the belt-rail, the spaces between the belt-rail and sheathing-plates being filled in by the vertical limbs of the window-sill plates 12. (See Figs. 4 and 6.) The sill-plates 12 are fitted in between the cover-plates 15 of the posts, and their horizontal limbs extend inward with a slight upward slant to form water-tables, upon which rest the lower edges of the window-sashes. The intermediate posts 7 rest upon the sill-plates 12, being secured thereto by angles 18. At the inside the sill-plates are provided with upturned flanges 19, said flanges being cut away where the intermediate posts rest upon the plates, and abutting against these flanges 19 are flanges 20, formed on the inside window-casings 21. These inside window-casings 21, one for each window, are pressed from a single piece of steel into the form shown more clearly in Figs. 8 to 11, inclusive. The sides of the casings are cut and flanged inwardly at 22 in line with flange 20, said flanges 22 extending only part way up the casing sides. The lower window-sashes 30 are bolted to the flanges 19, 20, and 22. Extending completely around the inner edge of the inside casings 21 are flanges 23, which overlap the interior finish of the car. At the outside and fitting against the inside casings are the outside casing-strips, formed, preferably, of extruded metal with hollow beadings 26, adapted to receive the edges of the cover-plates 15 of the main posts and the side flanges of the intermediate posts 7. At 25 these outer casing-strips project inwardly against the flanged portions 22 of the inside casings, and at the bottom they are cut to fit the sill-plates 12. At the top the outside casing-strips meet the lintel-plates 27, which are preferably of channel shape, with ends flattened to overlie the cover-plates 15 and the intermediate posts 7, where the top side plate 17 is applied thereto, the lintels being riveted inside the lower edge of said plates.

At 28 a slot is provided between the lintels 27 and the inside casings 21 to permit the passage therethrough of the upper window-sashes 29, said sashes being made in two parts, the lower portion glazed and the upper portion at 31 being provided with wire-gauze in order that, when the sash is dropped for ventilation, cinders, &c., may be prevented from entering the car. This arrangement of the stationary lower sash and the movable two-part upper sash is not new, my invention in this respect relating simply to the improvement in the metal casing for the sash.

To further strengthen the side panels between the posts below the window-openings, I provide reinforcing T-bars 32, riveting them inside of the sheathing-plates back of

the belt-rails and at the ends to the cover plates 15. (See Figs. 3 and 4.)

Without further describing the details of the framework, which in all other respects are similar to that described in my said copending application, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-frame, the combination with the side sills, of posts rising therefrom and bent inward at the top to form lower-deck carlines, upper-deck carlines extending across between opposite posts, a belt-rail, intermediate posts rising from the line of the belt-rail and bent inward at the top to also form lower-deck carlines, and longitudinal brace members to which the inward ends of all said lower-deck carlines are secured.

2. In a car-frame, the combination, in a side end panel, of a corner-post, a main frame-post spaced therefrom, outside sheathing-plates filling the space between posts, a diagonal brace extending from the foot of the corner-post to the top of the frame-post and riveted inside the sheathing-plates, and an intermediate post rising from said brace between posts, the main frame-post and intermediate post having inturned projections at their upper ends to form lower-deck carlines.

3. In a car-frame, the combination with the main frame-posts, of a belt-rail, sill-plates for the windows extending between posts and riveted in with the belt-rail, and intermediate posts rising from said sill-plates between windows.

4. In a car-frame, the combination with the side sills of posts rising therefrom, a belt-rail, sheathing-plates rising from the side sill to the belt-rail between posts, sill-plates for the windows having vertical limbs extending between posts and riveted in between the belt-rail and sheathing-plates, and intermediate posts rising from the sill-plates.

5. In a car-frame, the combination, with the main frame-posts, of outside cover-plates riveted to said posts, sill-plates for the windows extending between posts and having vertical limbs lying between and flush with the cover-plates, and a belt-rail passing across and riveted to the cover-plates and sill-plates.

6. In a car-frame, the combination, with the main frame-posts, of outside cover-plates riveted to said posts, sill-plates for the windows extending between posts and having vertical limbs lying between and flush with the cover-plates, a belt-rail passing across and riveted to the cover-plates and sill-plates, intermediate posts rising from the sill-plates, and top side plates to which the main and intermediate posts are riveted, said posts being carried above the side plates and bent inward to form lower-deck carlines.

7. In a car-frame, a window-casing comprising an outside sill-plate having an up-

turned flange at its inward edge, an inside casing having a longitudinal flange abutting against the sill-flange and side flanges rising therefrom, and a window-sash fastened to said flanges.

8. In a car-frame, a window-casing comprising an outside sill-plate having an upturned flange at its inward edge, a one-piece inside casing-plate flanged around its inward edges to overlap the inside finish and having an upturned flange along its bottom outward edge abutting against the sill-flange with side flanges rising part way up the casing in line therewith, beaded outside casing-strips rising from the sill-plate and fitted against the inside casing, a lintel-plate passing across at the top of said strips and spaced away from the top of the inside casing, a lower sash fastened to the casing-flanges, and an upper sash sliding in the grooves formed by the lower sash and casing-beads and passing up through the slot formed between the lintel and inside casing plates.

9. The sill-plate 12 comprising a vertical limb, a horizontal limb having a slight up-

ward incline and an upturned flange along the inside edge of the horizontal limb.

10. The inside window-casing 21 outwardly flanged around its inward edges, upwardly flanged along its bottom outside edge and inwardly flanged part way up its sides in line with the outside bottom flange.

11. In a car-frame, the combination with the main frame-posts, of the sill-plate 12 passing across between posts and riveted in with the side sheathing, the intermediate post 7 rising from said sill-plate, the pressed-steel inside window-casings 21 positioned at each side of the intermediate post and fitting between said post and the main frame-posts, the outer beaded side-frame strips 24, and the lintel-plates 27 riveted to the top side plate of the car-frame.

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

WILLIAM F. KIESEL, Jr.

Witnesses:

FRANCIS N. PARIS,
B. S. BROWN.