

No. 743,500.

PATENTED NOV. 10, 1903.

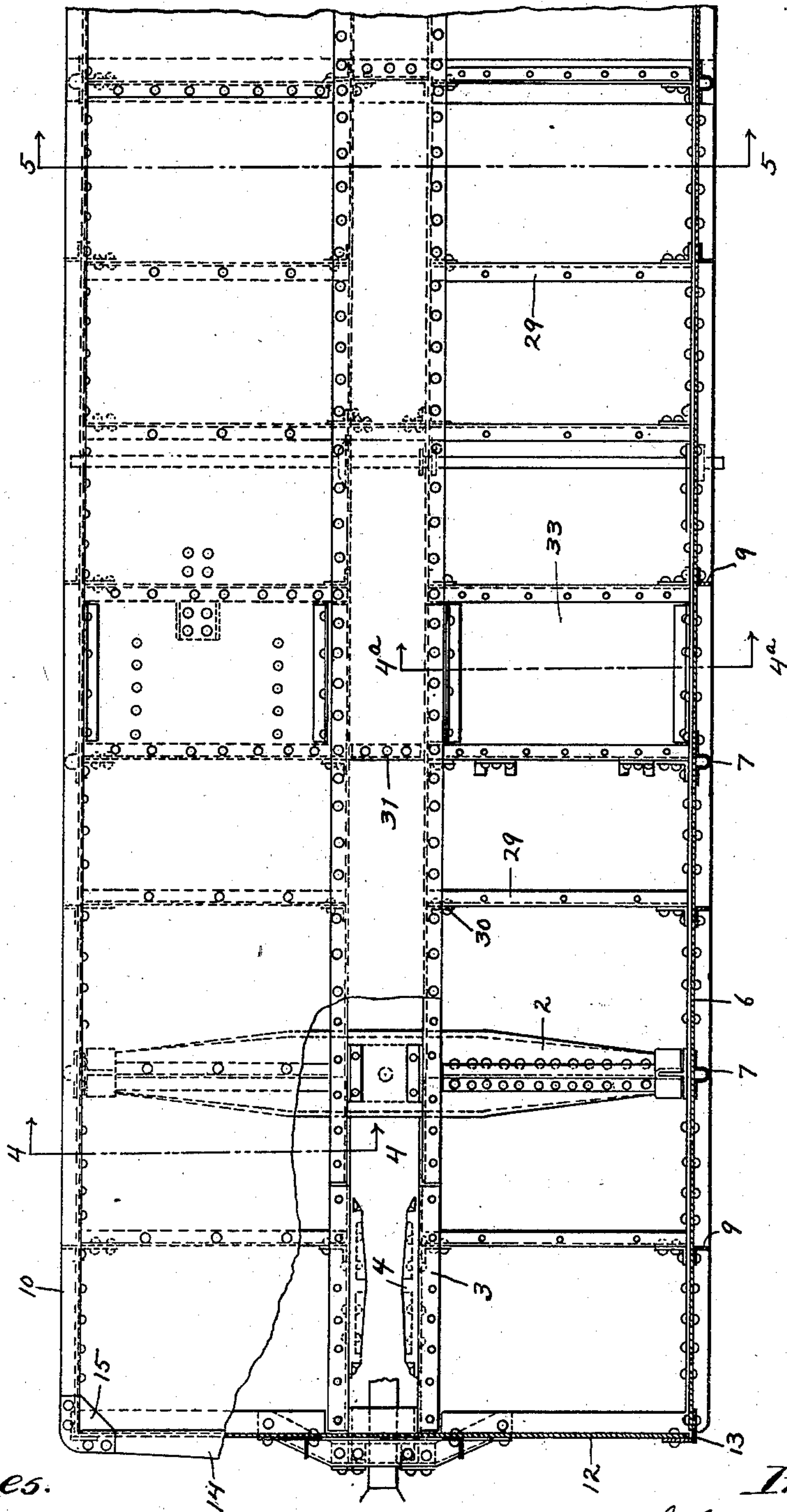
J. M. HANSEN.
GONDOLA CAR WITH DROP DOORS.

APPLICATION FILED JULY 31, 1902.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1



Witnesses.

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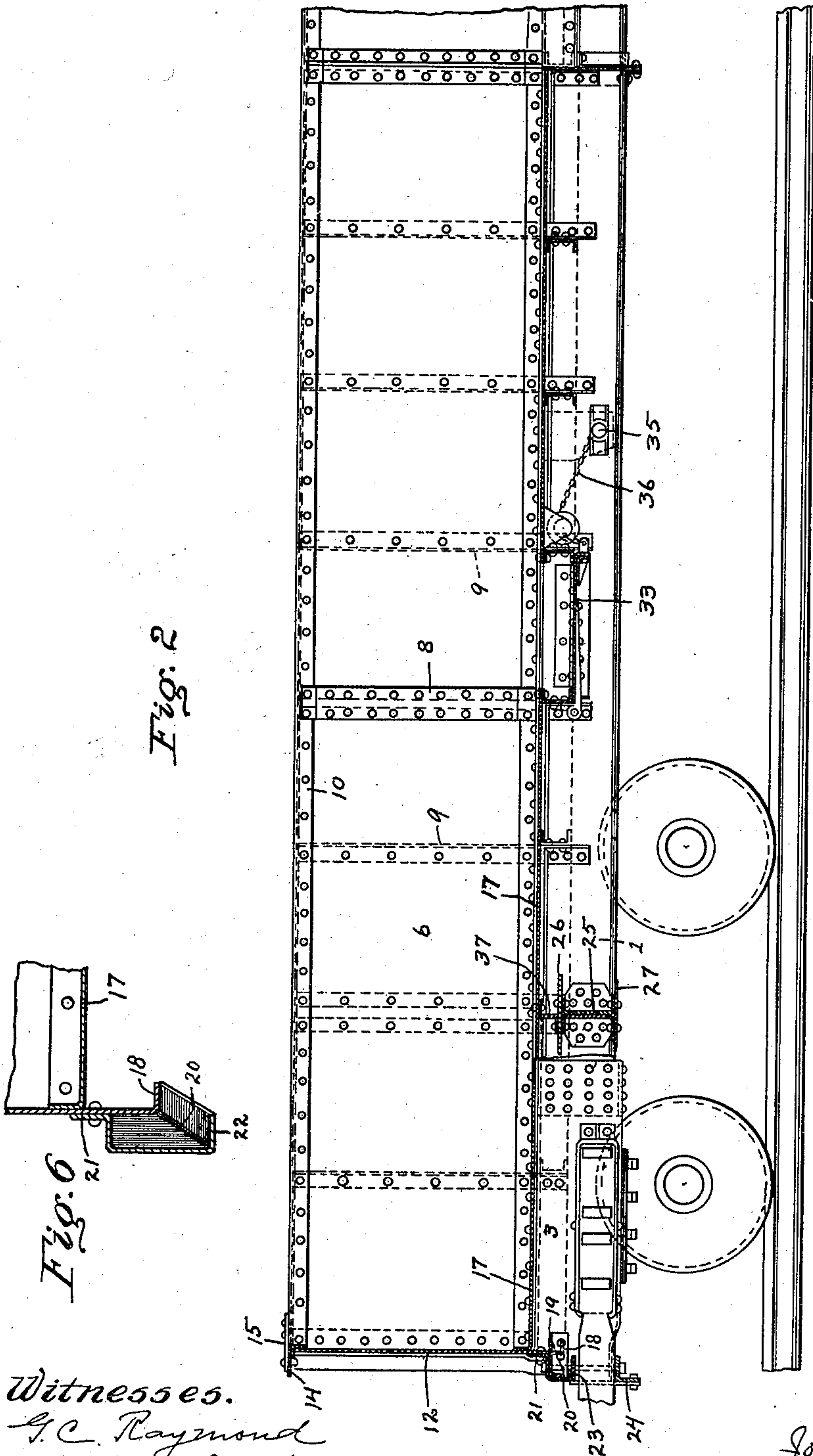
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4 SHEETS—SHEET 2.



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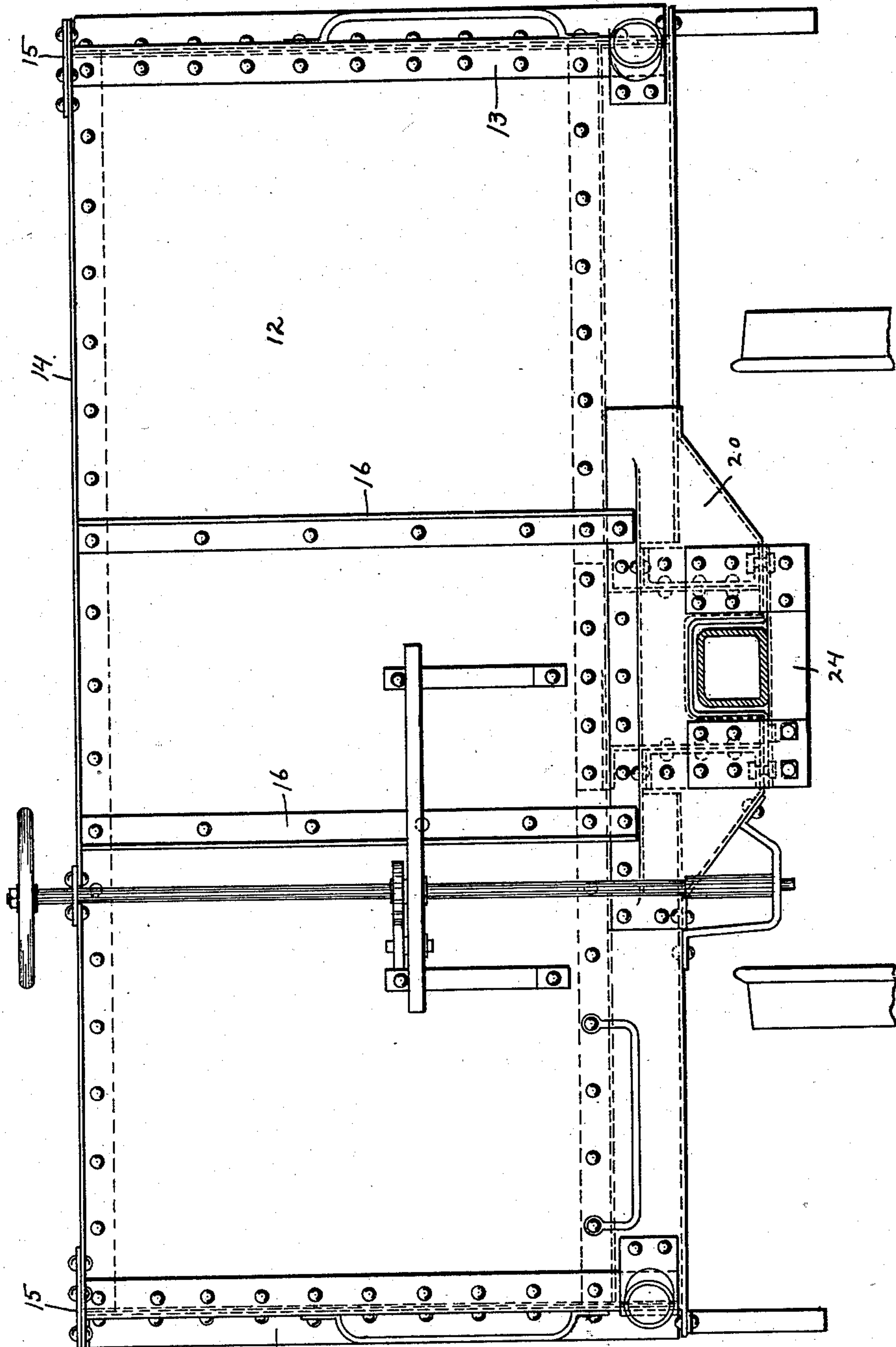
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4 SHEETS—SHEET 3.

Fig. 3



Witnesses.

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4 SHEETS—SHEET 4.

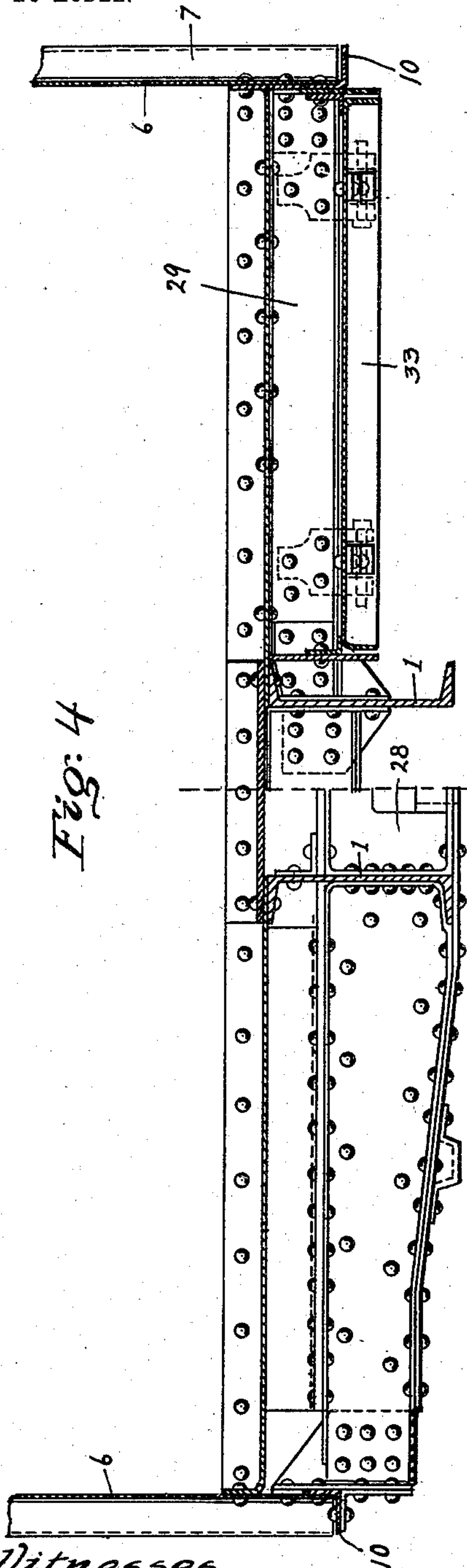


Fig: 4

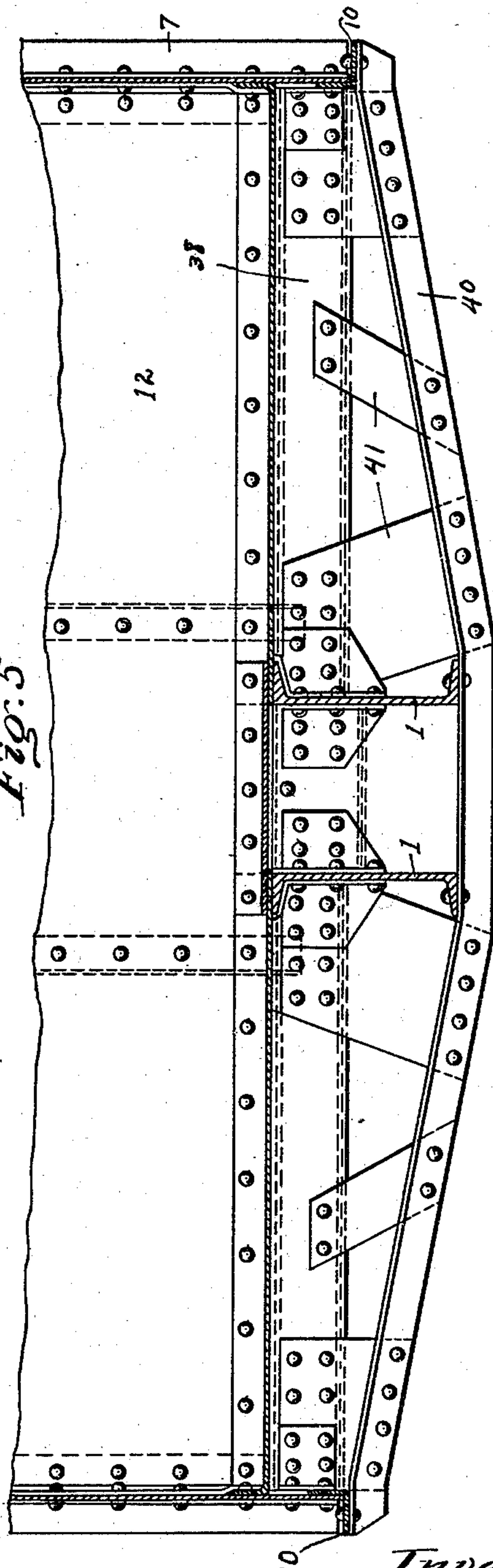


Fig: 5

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN M. HANSEN, OF PITTSBURG, PENNSYLVANIA.

GONDOLA CAR WITH DROP-DOORS.

SPECIFICATION forming part of Letters Patent No. 743,500, dated November 10, 1903.

Application filed July 31, 1902. Serial No. 117,778. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. HANSEN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gondola Cars with Drop-Doors; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to railway-cars, and more especially to gondola cars and the like provided with a metallic underframe and metallic side and end walls.

The object of my invention is to improve cars of this type in details of construction, which will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of one-half of my car, the lower part thereof having the floor-plates removed and the side walls in section. Fig. 2 is a longitudinal section through the car, the left-hand portion being taken on the central longitudinal plane and the remainder on a plane between the sides and center sills. Fig. 3 is an end view of the car. Fig. 4 is a transverse section, the left-hand portion being taken on the line 4 4, Fig. 1, and the right-hand portion on the line 4^a 4^a, Fig. 1. Fig. 5 is a transverse section taken on the line 5 5, Fig. 1; and Fig. 6 is a detail section through the end plate and hood for the draw-bar.

The car illustrated is of the type having center sills, but no side sills as such, the sides of the car being formed as plate-girders, which not only assist in confining the lading, but also in supporting the load. The center sills 1 are flanged structures, preferably rolled channel-beams, as shown, placed with their flanges projecting outwardly. They extend in each direction beyond the body-bolster 2 and have riveted thereto outside of said bolster the draft-sills 3. The latter are shown as pressed channels having their flanges projecting outwardly and having their webs overlapping and riveted to the webs of the center sills. Draft-lugs 4 are riveted to the inner faces of the draft-sills, as is the usual custom.

The sides of the car are formed from plates 6, said plates lying in the same plane and being united by means of trough-shaped stakes 7, riveted to the outer faces thereof, and

strengthening welts or plates 8, riveted on the inner faces thereof, which welts also serve the purpose of excluding the lading from the interior of the stakes. The sides plates are strengthened at intervals by vertical angle-stakes 9, riveted thereto and opposite the body-bolsters by trough-shaped stakes 7 riveted thereto. To the upper and lower edges of the side plates are riveted the angle-rails 10, said angle-rails preferably having their vertical webs riveted to the inner faces of the side plates and having their horizontal flanges projecting outwardly, although this is not essential, as just the reverse arrangement may be employed. These angle-rails serve to stiffen or reinforce the side plates, thus practically forming plate-girders, and the top angle-rail also prevents the unsightly and dangerous exposure of the sharp edges of the side plates which would otherwise be the case. The ends of the car are formed, preferably, as a single plate 12, extending from side to side of the car and secured at the corners to the side plates by means of angle-posts 13, the flanges of which are riveted to both the end and side plates. To the top edge of the end plate is riveted an angle-bar 14, which preferably will be sheared to present an outwardly-projecting flange of varying width, widest at the center and tapering toward the ends, as shown, this angle serving to reinforce the top of the end plate. Gusset-plates 15 are riveted to the horizontal flanges of the end and side top angle-rails. The end plates are stiffened by means of vertical angle-bars 16, riveted thereto.

The lower edge of the end plate preferably extends some distance below the floor-plates 17, as shown in Figs. 2 and 6, and has a flange 18 formed on its lower edge. This flange is shown as turned inwardly, although this is not essential. It serves to stiffen the end plate, so that said plate not only serves the usual function of an end plate, but also serves as an end sill, thus making a separate end sill unnecessary. If desired, a separate angle-bar or other flanged shape may be riveted to the plate to provide this flange. The floor-plates 17 are suitably secured to the end plate and also to the side plates, preferably by having flanges formed on their edges, which flanges are riveted to the side and end plates. The outer ends of the draft-sills 3 also are

secured to the end plate and supported thereby. The lower edge of the end plate near its center is notched, as shown, to provide an opening for the coupler-horn brace 19. At the center of the end plate is secured a hood 20, formed of plate-steel pressed to shape, which hood is provided with an upwardly-extending flange 21, which overlaps and is secured to the end plate. The hood is provided along its lower edge with flanges 22 to stiffen the same and at its center is notched on its under side to clear the draw-bar shank, and the edges of this notch are also provided with inturned flanges 23. A draw-bar carrier 15 formed of a section of angle-iron 24 is suitably supported from this hood. The hood embraces the ends of the draft-sills, which latter are suitably secured to said hood.

The body-bolster construction may be of any preferred type, that shown comprising channel-shaped members 25, extending from the center sills to the sides of the car, a top cover-plate 26, riveted to the upper flanges of said channels and extending through slots in the center sills and nearly to the sides of the car, and a bottom cover-plate 27, riveted to the lower flanges of the channel members and extending continuously underneath the center sills. A center brace 28 is secured to the center sills in line with the channel members 25. The sides of the car are tied to the center sills at intervals by suitable connecting members or transoms 29, each comprising a section of channel-iron secured to the center sills and sides of the car by connecting-angles 30. Between the center sills, in line with each alternate pair of transoms, is a center brace 31, which also comprises a section of channel-iron secured to the center sills by connecting-angles. The doors 33 for the bottoms of the car are preferably located between two adjacent transoms 29, being hinged to one of said transoms and being opened and closed by any suitable mechanism—such, for instance, as the winding-shaft 35 and connecting-chain 36. Z-shaped spacing-pieces or stringers 37 are riveted to the top cover-plates of the bolsters and serve to support the floor-plates 17. At the center of the car is a deep transom comprising three sections of channel-bar 38, one lying between the center sills and two others lying between the center sills and sides of the

car and being secured to the center sills and car sides by connecting angle-pieces 39. A pair of angle-bars 40 extend continuously underneath the center sills out to the sides of the car, to which they are secured, these angle-bars being secured to the transom-channels 38 by means of connecting-plates 41, which plates have their upper ends riveted to the webs of the channels and their lower edges riveted between the angle-bars 40.

In the construction of car described no end sills as such are used. The end plates of the car, by reason of the flanges formed at their lower edges, perform the usual function of end sills, and the hoods for the coupler-horn braces and draw-bar carriers are so shaped that they can be conveniently riveted to the flat end plates.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A combined end sill and end plate for a car, comprising a flat plate adapted to be secured to the sides and floor of a car, said plate having a flange formed on its lower edge and having a notch in its lower edge to provide space for the draft mechanism, and a metallic hood secured to the lower edge of said end plate at its center, said hood also being provided with a notch for the passage of the draft mechanism.

2. In a metallic car, the combination with floor and side plates, of an end plate secured to the floor and side plates and provided at its lower edge with an inwardly-projecting flange to adapt it to serve also as an end sill, and a metallic draft-beam-supporting hood secured to the lower edge of said plate at its central portion.

3. In a metallic car, the combination with an end plate, of a metallic hood at the end of said car having an upwardly-projecting flange united to the end plate and having inwardly-projecting bottom flanges, said hood embracing the ends of the draft-sills and containing an opening for the passage of the draw-bar shank.

In testimony whereof I, the said JOHN M. HANSEN, have hereunto set my hand.

JOHN M. HANSEN.

Witnesses:

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G. C. RAYMOND.