

No. 753,938.

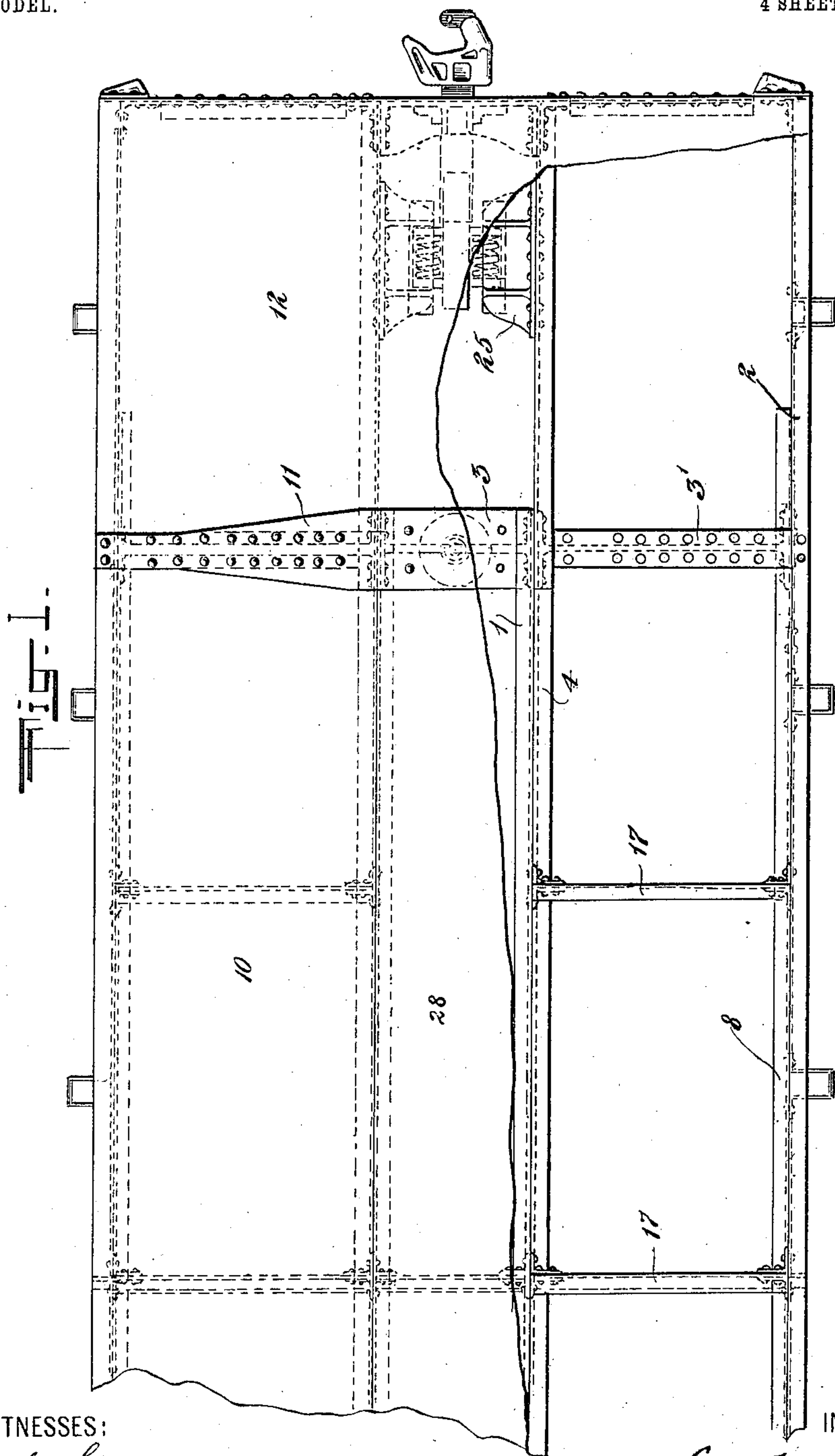
PATENTED MAR. 8, 1904.

C. VANDERBILT.
RAILWAY CAR.

APPLICATION FILED FEB. 17, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



WITNESSES:

Charles F. Jones

DeLoe Holden

INVENTOR

Cornelius Vanderbilt

BY

Butts Butts Sheffield Butts
ATTORNEYS

No. 753,938.

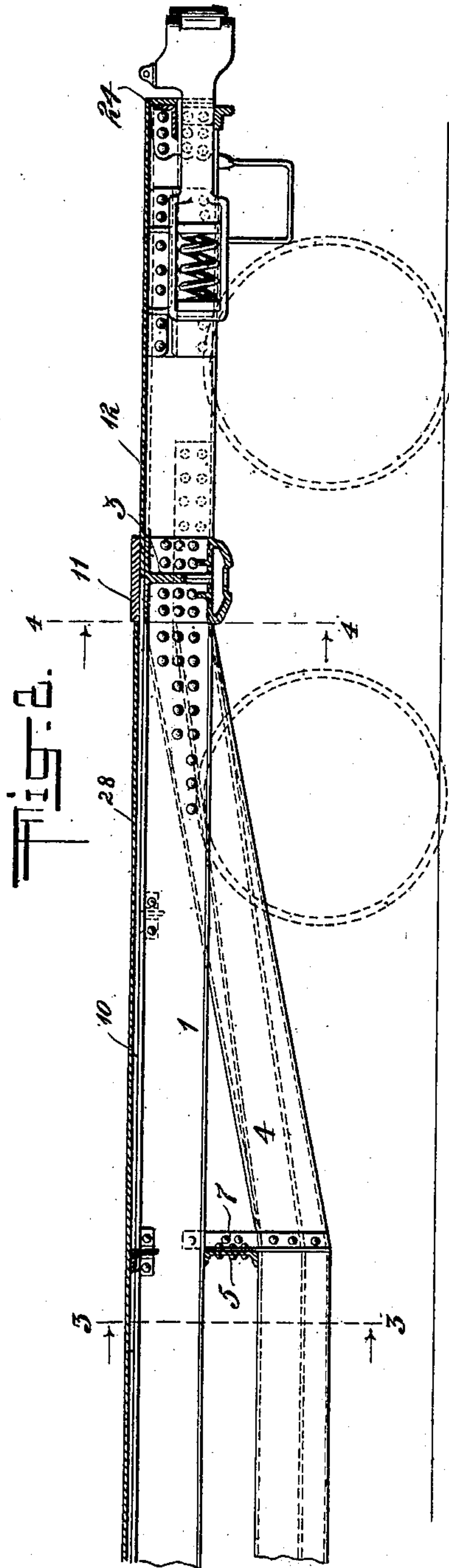
PATENTED MAR. 8, 1904.

C. VANDERBILT.
RAILWAY CAR.

APPLICATION FILED FEB. 17, 1902.

NO MODEL.

4 SHEETS—SHEET 2.



WITNESSES:

Charles Figaro

Delos Holden

INVENTOR

Cornelius Vanderbilt

BY

Atto Atto Shepard Atto
ATTORNEYS

No. 753,938.

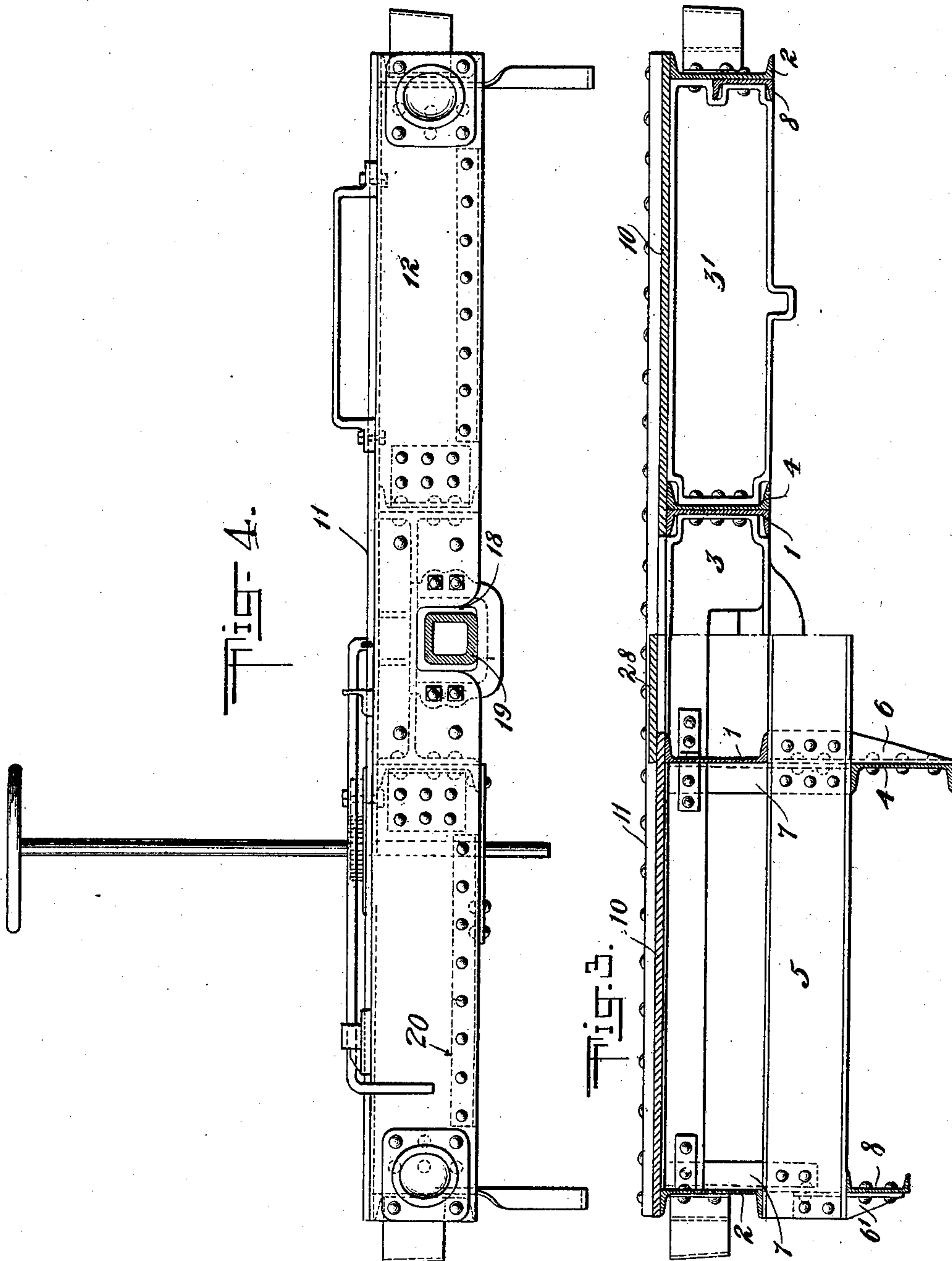
PATENTED MAR. 8, 1904.

C. VANDERBILT.
RAILWAY CAR.

APPLICATION FILED FEB. 17, 1902.

NO MODEL.

4 SHEETS—SHEET 3.



WITNESSES:

Charles Figaro.

Delos Holden.

INVENTOR

Cornelius Vanderbilt.

BY

Attys Attys Sheffield Attys
ATTORNEYS.

No. 753,938.

PATENTED MAR. 8, 1904.

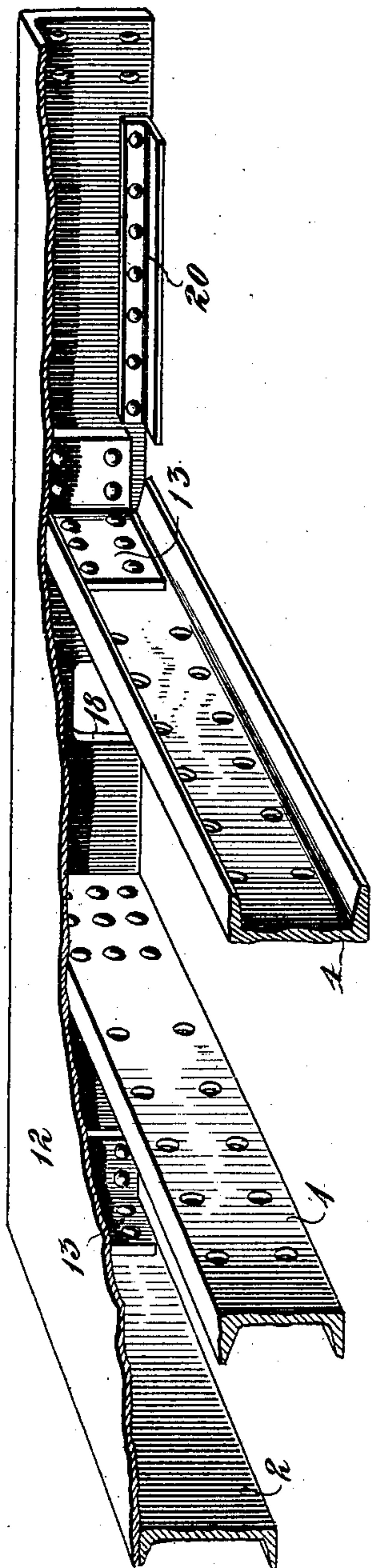
C. VANDERBILT.
RAILWAY CAR.

APPLICATION FILED FEB. 17, 1902.

NO MODEL.

4 SHEETS—SHEET 4.

Figs.



WITNESSES:

Charles Figaro
Deos Holden

INVENTOR

Cornelius Vanderbilt.

BY

Attys Attys Shippin Attys
ATTORNEYS

UNITED STATES PATENT OFFICE.

CORNELIUS VANDERBILT, OF NEW YORK, N. Y.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 753,938, dated March 8, 1904.

Application filed February 17, 1902. Serial No. 94,411. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS VANDERBILT, a citizen of the United States, residing in the borough of Manhattan, city and State of New York, have invented certain new and useful Improvements in Railway-Cars, of which the following is a specification.

My invention relates to an improved form of metallic car. In the construction of this car it is my aim to use wherever practicable ordinary commercial rolled-metal beams, such as channels and angles, and very few parts which need to be specially made, so that the car, in addition to being strong, durable, and simple in construction, can also be manufactured at a small cost and in the least possible time. One may, however, make use of pressed metal or other material, if desired.

I have shown my invention as embodied in a flat-car; but it is not limited to this form of car, as it is obvious that the car-frame herein described and claimed is equally applicable to other forms of car, such as box-cars, gondola cars, &c. The scope of the invention is defined by the appended claims.

Reference is made to the accompanying drawings, in which—

Figure 1 is a plan, and Fig. 2 is a central longitudinal section, of one half of the car, part of the flooring being broken away in Fig. 1. Fig. 3 is a transverse sectional view, the left half being taken on the line 3 3 of Fig. 2 and the right half being taken on the line 4 4 of Fig. 2. Fig. 4 is an end elevation of the car; and Fig. 5 is a perspective view showing the end floor-plate, part of said plate and adjacent parts being broken away.

The description being confined to that half of the car which is illustrated it will be understood that the other half of the car is in all material respects similar to that which is shown.

The supporting-framework of the car comprises two longitudinal center sills, (shown as channels 1 1,) which are securely united at their ends by the bolster-pieces 3. These channels face inward, and to their flat outer faces or backs at the bolsters are secured the bent channels 4 4, which act as tension truss members between the bolsters, but which also ex-

tend horizontally beyond the bolsters and carry the draft-rigging guides 25 and the end sills 24. Between the channels 1 and 4 and secured thereto by the angle-bars 6 and 7 are two transverse beams 5, which may be channels, one only of which is shown, the other one being correspondingly situated in that half of the car which is not shown. These beams act as struts between the truss members 1 and 4 and also sustain the longitudinal channels 2 2, which constitute the side sills. The beams 5 also act as struts between the sills 2 and the bent channel side truss-beams 8, to which they are secured by angle-bars 6' and 7'. The side sills 2 2 are further secured to the center sills 1 1 by means of the bolster-pieces 3'. The construction of the longitudinal center and side trusses entirely of flanged beams is a decided improvement over the use of truss-rods. It possesses the advantage which usually accompanies the use of flanged beams—viz., the greatest possible strength with the least possible weight—and, furthermore, the flanged tension member of my structure can be much more readily secured to the sill or compression member than could an ordinary truss-rod.

A suitable number of transverse floor-beams 17 extend from side to center sills and between the center sills, as shown. The upper surface of said floor-beams and of the bolster-pieces 3 and 3' is flush with the upper surface of the center and side sills. The side floor-plates 10 and the end floor-plates 12 are laid directly upon this surface. The bolster is completed by the cover-plate 11, which is secured above the floor-plates 10 and 12 to the parts 3 and 3'.

The end floor-plate 12 is bent downward at its outer edge, so as to cover the ends of the channels 4 and 2 and the spacing-block 24, to which it is firmly secured by angle-plates 13, whereby an end sill may be dispensed with. The lower edge of the downwardly-projecting portion of the plate 12 is cut away at 18 to permit the passage of the draw-bar or coupling 19 and is stiffened by the angle-bars 20. Instead of using separate pieces 20 for this purpose the lower edge of the plate may be turned in to form an integral stiffening-flange. The inner edge of this plate preferably extends to the bolster, as shown, though this is imma-

terial, the essential feature of construction being that enough of the inner part of the plate is horizontal so that it may be securely riveted to the upper flanges of the longitudinal beams. In case the car is floored with wood the flooring would be laid above the said horizontal portion.

The side floor-plates 10 preferably extend continuously from bolster to bolster and cover the space between the side and center sills to which they are riveted. The space between the center sills is covered by the center floor-plate 28, likewise extending from bolster to bolster and being riveted to the said sills above the side floor-plates.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a metallic car-frame, a longitudinal center truss, a transverse beam forming a strut for said truss and side sills secured to the ends of said beam, substantially as described.

2. In a metallic car-frame, longitudinal center and side trusses and a transverse beam forming a strut for each of said trusses and supporting said side trusses, substantially as described.

3. In a metallic car-frame, a center sill, side trusses, a transverse beam forming a strut for said trusses and secured to said center sill, substantially as described.

4. In a metallic car-frame, a longitudinal center truss composed of flanged beams and a transverse beam forming a strut for said truss, substantially as described.

5. In a metallic car-frame, longitudinal center and side trusses composed of flanged beams and a transverse beam forming a strut for each of said trusses, substantially as described.

6. In a metallic car-frame, a longitudinal center sill, longitudinal side trusses composed of flanged beams, and a transverse beam forming a strut for said trusses, substantially as described.

7. In a metallic car-frame, a plurality of members, each comprising a straight longitudinal channel-beam and a channel-beam bent in the plane of its web, and placed back to back with said straight beam, its ends being secured thereto, and a transverse beam interposed between the straight and bent channels of each member, substantially as described.

8. In a metallic car-frame, center trusses comprising flanged beams 4, 4 having horizontal end portions which carry draft-rigging guides and intermediate portions depressed below said horizontal end portions, and straight flanged compression members 1, 1 secured to the horizontal portions of said flanged beams 4, 4, substantially as described.

9. In a metallic car, longitudinal supporting-sills, floor-plates laid thereon, the end floor-plate being bent down and secured directly to the ends of said sills, whereby an end sill is dispensed with, substantially as described.

10. In a metallic car, a floor-plate having a portion bent down to form an end plate, said portion being apertured to permit the passage of the draw-bar or coupling, substantially as described.

11. In a metallic car, a floor-plate having a portion bent down to form an end plate, said portion having stiffening-flanges along its lower edge, substantially as described.

12. In a metallic car, longitudinal center and side sills, bolster-pieces secured therebetween, side floor-plates extending from side to center sills between the bolsters, a center floor-plate extending from center to center sill above the side floor-plates, end floor-plates extending from the bolsters to the ends of the said sills, and a bolster-cover plate secured above the adjacent edges of the end and side plates, substantially as described.

13. In an underframe, a trussed longitudinal supporting-sill composed of tension and compression chords formed of flanged bars arranged in the same vertical plane, and transverse transoms which extend between the chords of said sill and constitute struts therefor, substantially as set forth.

14. In an underframe, trussed center sills each composed of tension and compression chords formed of flanged bars arranged in the same vertical plane, and transverse transoms which extend between the chords of said sills and constitute struts therefor, substantially as set forth.

15. In an underframe, trussed center sills each composed of tension and compression chords formed of flanged bars arranged in the same vertical plane, and transverse transoms formed of flanged beams which extend between the chords of said sills and constitute struts therefor, substantially as set forth.

16. In an underframe, the combination of trussed longitudinal center and side sills each composed of upper and lower chords formed of flanged bars arranged in the same vertical plane, and transverse transoms which extend between the chords of said sills and constitute struts therefor, substantially as set forth.

In witness whereof I have hereunto signed my name this 15th day of February, 1902.

CORNELIUS VANDERBILT.

In presence of—

LOUIS A. SHEPARD,
JAMES J. COSGROVE.