

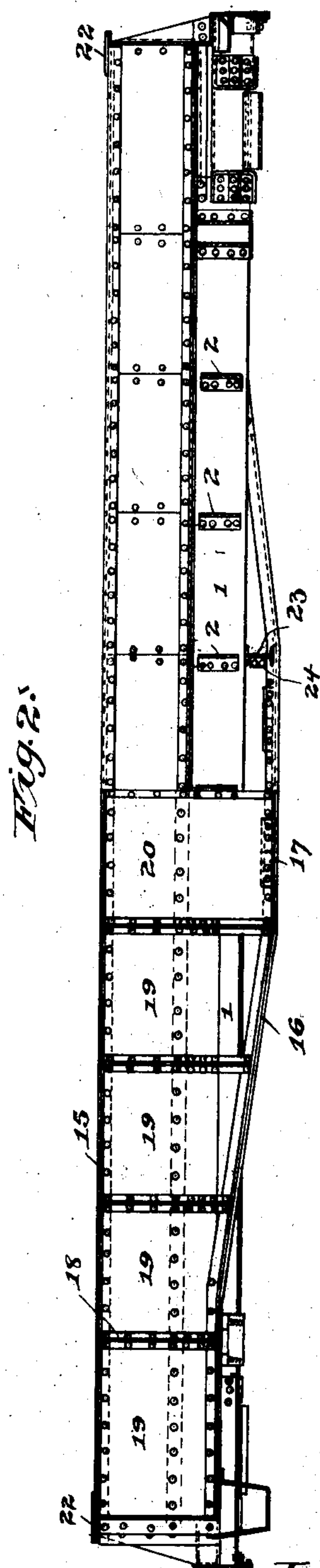
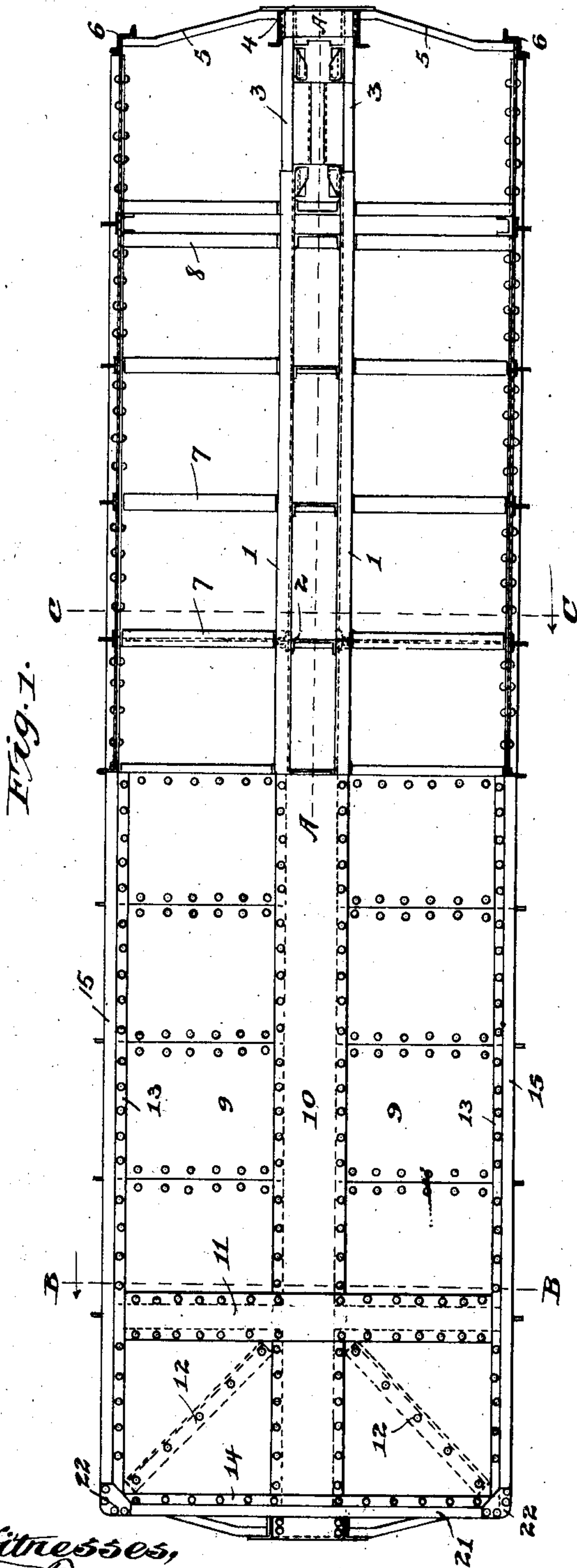
No. 834,004.

PATENTED OCT. 23, 1906.

E. I. DODDS.
LOW SIDE METAL GONDOLA CAR.

APPLICATION FILED JULY 6, 1905.

2 SHEETS—SHEET 1.



Witnesses,
E. J. Mann
S. N. Ford

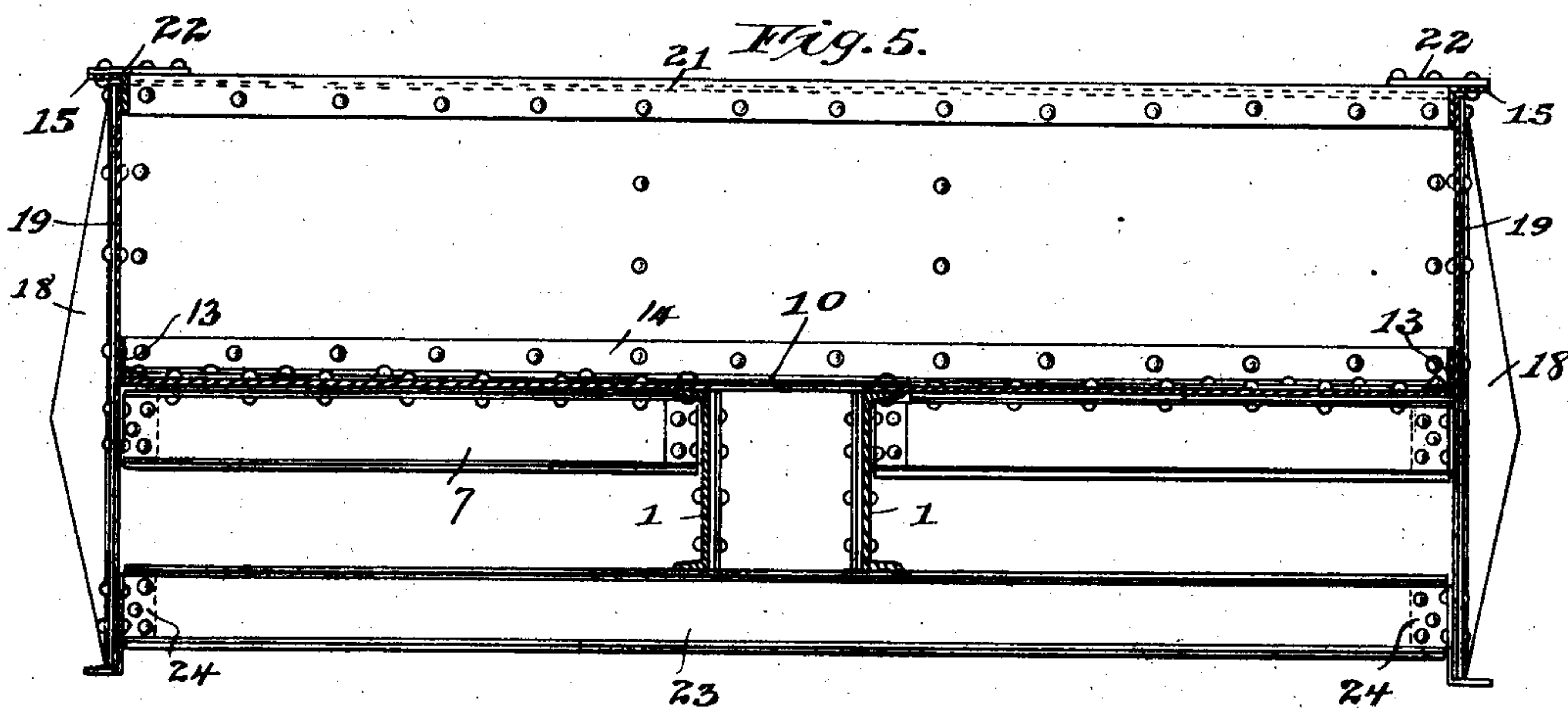
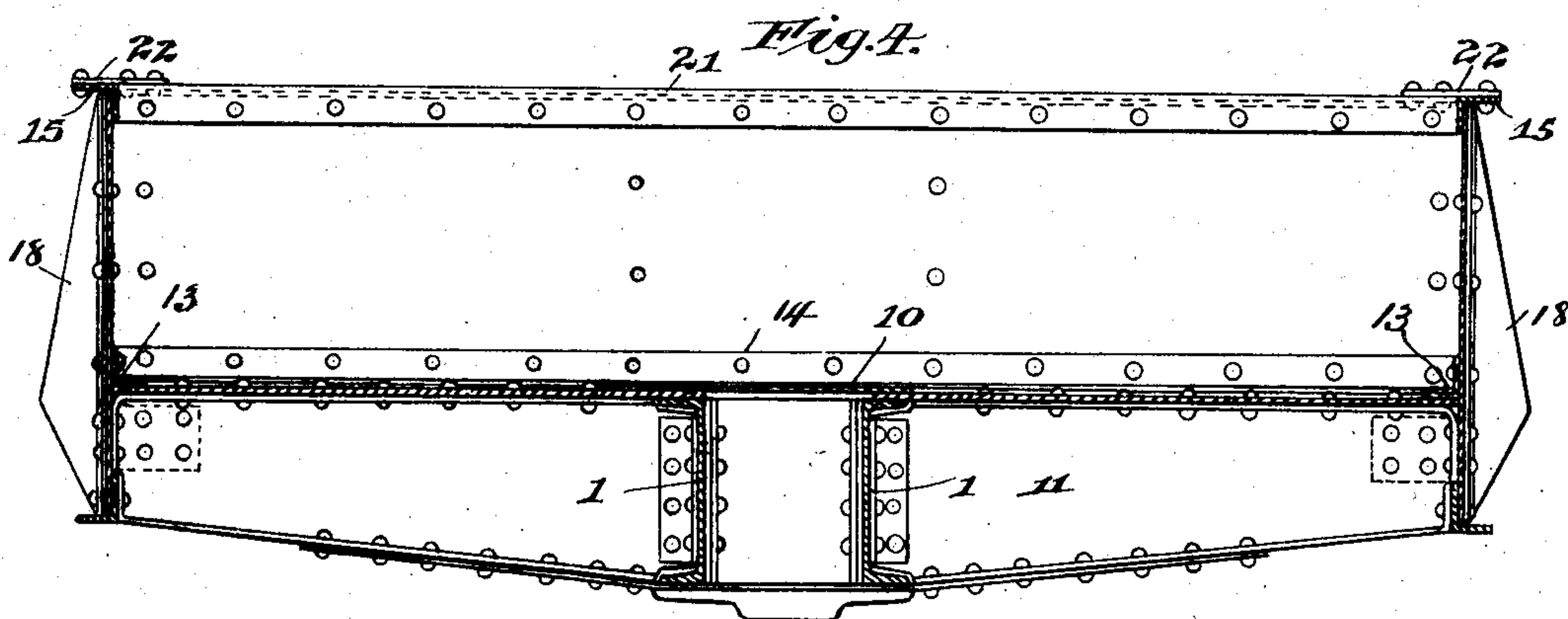
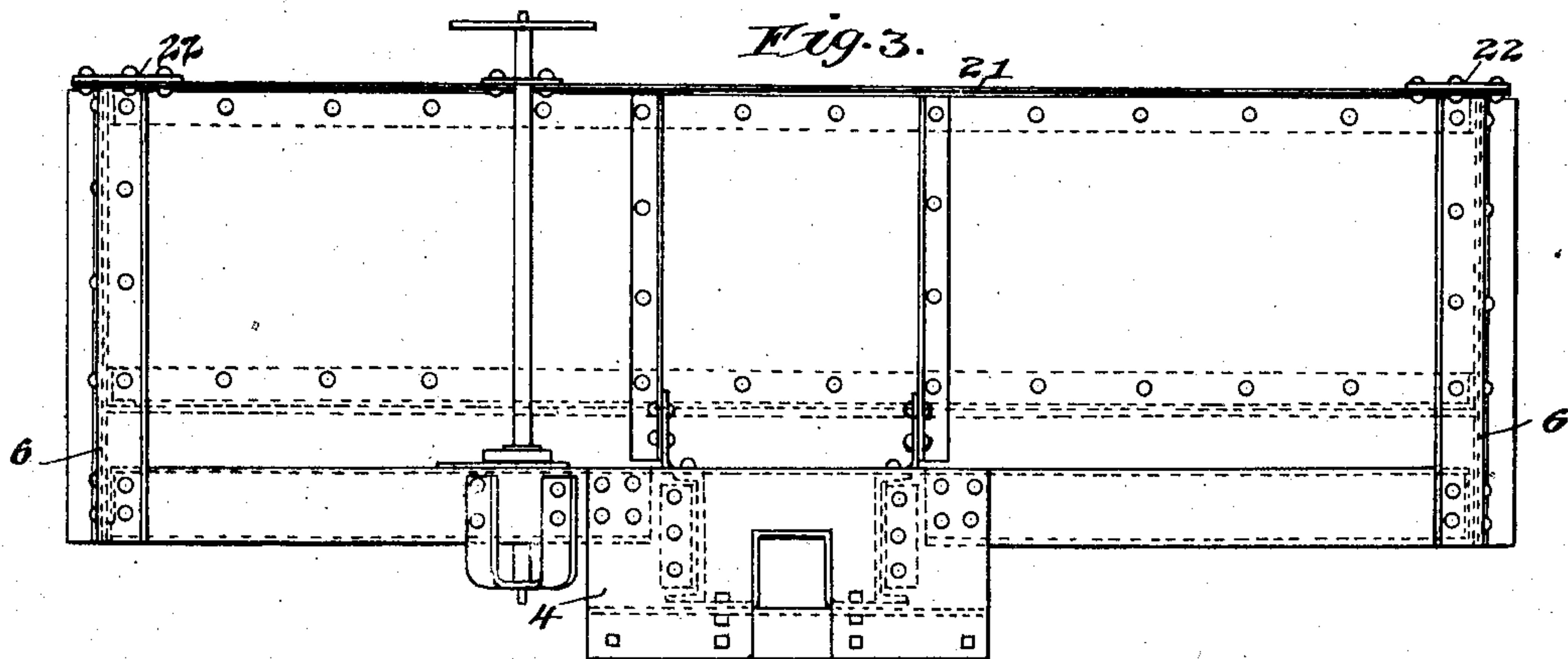
Inventor,
Ethan I. Dodds,
By *Offield, Towle & Lathrop*
Attys.

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2 SHEETS—SHEET 2.



Witnesses,
J. E. Mann,
D. M. Pond

Inventor,
Ethan I. Dodds,
By *Offield, Towle & Lushington*
Attys.

UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF PULLMAN, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

LOW-SIDE METAL GONDOLA CAR.

No. 834,004.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed July 6, 1905. Serial No. 268,304.

To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, residing at Pullman, county of Cook, and State of Illinois, have
5 invented certain new and useful Improvements in Low-Side Metal Gondola Cars, of which the following is a specification.

My invention relates to the construction of sheet-metal cars, and is especially directed to
10 improvements in plate-girder sides for steel gondola cars.

One object of the invention is to employ a strong construction involving comparatively small parts which can be easily removed and
15 replaced in case they are marred, bent, or otherwise injured.

Another object is to use metal plates of standard size, and by so doing I can manufacture a car more economically than has
20 been usual and at the same time reduce its weight.

Referring to the accompanying drawings, illustrating one embodiment of my invention, and which form a part of this specification, Figure 1 represents a plan view of a car
25 constructed according to my invention, a portion of the car being shown in section, illustrating the underframe. Fig. 2 is a partial side elevation and partial longitudinal
30 central section on the line A A of Fig. 1. Fig. 3 is an end elevation of a car. Fig. 4 is a section on the line B B, Fig. 1. Fig. 5 is a section on the line C C, Fig. 1.

Referring to Fig. 1, 1 1 represent center
35 channel-sills spaced apart by the short channel-sections 2, the center sills extending through the body-bolsters 8, so as to leave sufficient stock to which the draft-sills 3 may be riveted, the latter being secured to the
40 face-plate 4. The end sills comprise two channel members 5 5, riveted at their inner ends to the face-plate and fastened at their outer ends to the corner-pieces 6, each of which comprises a channel-beam whose web
45 has been bent to an angle of ninety degrees. The floor-plates 9 extend from side to side of the car and are riveted to the flanges of the cross-bearers 7 and body-bolsters 8. The longitudinal strengthening-plate 10 is riveted
50 to the flanges of the center sills, the rivets passing through the floor-plates 9. The cross-plate 11 is fastened to the flanges of the body-bolster, its rivets also passing through the floor-plates. The end floor-plates are

stiffened by the diagonal angle-bars 12, riv- 55
eted to the under side thereof. The angle-bars 13 and 14 extend along the side and end edges of the floor and are fastened to the latter and to the side and end plates. The compression angle-bars 15 are provided as a 60
coping at the upper edge of each side, and the lower tension angle-beam 16 comprises horizontal end and central portions and intermediate inclined portions. The beam 16
is made in two parts and is spliced at 17, as is 65
shown in Fig. 2. The side stakes 18, which are T-shaped in cross-section, with the outer flange tapering, as shown in Figs. 4 and 5, are riveted to the upper compression angle-
bar 15 and to the lower tension-beam 16. 70
The side plates 19, which are of a standard size, are fastened to the members 15, 16, and 18. At the central portion of the side the plates 20 are longer than the plates 19 and connect the member 15 and the depressed 75
central portion of the tension-beam 16. It will be noted that by this construction the plates 19 do not cover the entire space between the bar 15 and the inclined portion of the tension-beam 16, but leave spaces, as is 80
shown in Fig. 2. By such a construction I am enabled to use side plates of a standard size without any cutting and at the same time to reduce the weight of the car as well as its cost. The side plates 19 and 20 are 85
sufficiently long so as to cover the ends of the cross-bearers or flying transoms 7 and to protect them from side sweeps.

The needle I-beams 23 are fastened to the sides of the car by means of the angle-plates 90
24 and it is to be noted that they are not secured to the lower flanges of the center sills, this construction being clearly shown in Fig. 5.

A car constructed as described above has 95
very rigid sides perpendicularly as well as longitudinally, and by connecting the side stakes to both the top bar 15 and the tension-beam 16 I secure a very strong structure. The long side plates 20 provide a substantial 100
connection for the needle-beams, and by making all the side plates cover the ends of the cross-bearers the latter are protected from side sweeps due to accidents.

From the above description it will be ob- 105
vious that any portion of the structure can be easily removed so as to be repaired or replaced, necessitating a dismantling of only a

small portion of the car. It is also obvious that various mechanical modifications in the details of construction may be made without departing from the principle of my invention, and I therefore do not wish to be understood as limiting myself strictly to the precise details of construction hereinbefore set forth and shown in the drawings.

This patent is intended to embrace only so much of the disclosure made herein as is covered by the claims.

I claim—

1. A plate-girder side for metal car comprising an upper angle-bar, a lower spliced tension angle-bar, side stakes connecting said upper and tension bars, and side plates, substantially as described.

2. A plate-girder side for a railway-car having an upper longitudinal bar, a lower longitudinal tension-bar with horizontal end and central parts and intermediate inclined parts, side stakes connecting said upper and lower bars, metal plates fastened to said upper bar, to a portion of said side stakes, and to the central horizontal part of said lower tension-bar, and other metal plates of equal height, but of a less height than said central plates, fastened to said upper bar and to the remaining side stakes, a portion of said latter plates being also fastened to the end horizontal parts of said lower tension-bar, substantially as described.

3. In a railway-car, the combination of cross-bearers, and a plate-girder side having an upper longitudinal bar, a lower longitudinal tension-bar with horizontal end and central parts and intermediate inclined parts, side stakes connecting said upper and lower bars, metal plates fastened to said upper bar, to a portion of said side stakes, and to the central horizontal part of said lower tension-bar, and other metal plates of equal height, but of a less height than said central plates, fastened to said upper bar and to the remaining side stakes, a portion of said latter plates being also fastened to the end horizontal

parts of said lower tension-bar, said metal plates covering the ends of said cross-bearers, substantially as described.

4. In a railway-car, the combination of cross-bearers, and a plate-girder side having an upper longitudinal angle-bar, a lower longitudinal spliced tension angle-bar with horizontal end and central parts and intermediate inclined parts, side stakes connecting said upper and lower bars, rectangular metal plates fastened to said upper bar, to a portion of said side stakes, and to the central horizontal part of said lower tension-bar, and other rectangular metal plates of equal height, but of a less height than said central plates, fastened to said upper bar and to the remaining side stakes, a portion of said latter plates being also fastened to the end horizontal parts of said lower tension-bar, said metal plates covering the ends of said cross-bearers, substantially as described.

5. The combination of a car having body-bolsters and cross-bearers, with a plate-girder side for the car comprising an upper angle-bar, a spliced tension angle-bar having horizontal and inclined portions, side stakes connecting the upper and tension bars, and side plates, all of which latter are rectangular and cover the ends of the cross-bearers, substantially as described.

6. A plate-girder side for a car, comprising an upper angle-bar, a lower tension angle-bar having horizontal and inclined portions, side stakes connecting said upper and lower bars, and rectangular side plates connected to the upper angle-bar, to the horizontal portions of the lower tension-bar and to the side stakes, and other rectangular side plates above said inclined portions of the lower tension-bar connected to the upper angle-bar and to the side stakes, substantially as described.

ETHAN I. DODDS

Witnesses:

SAMUEL N. POND,

FREDERICK C. GOODWIN.