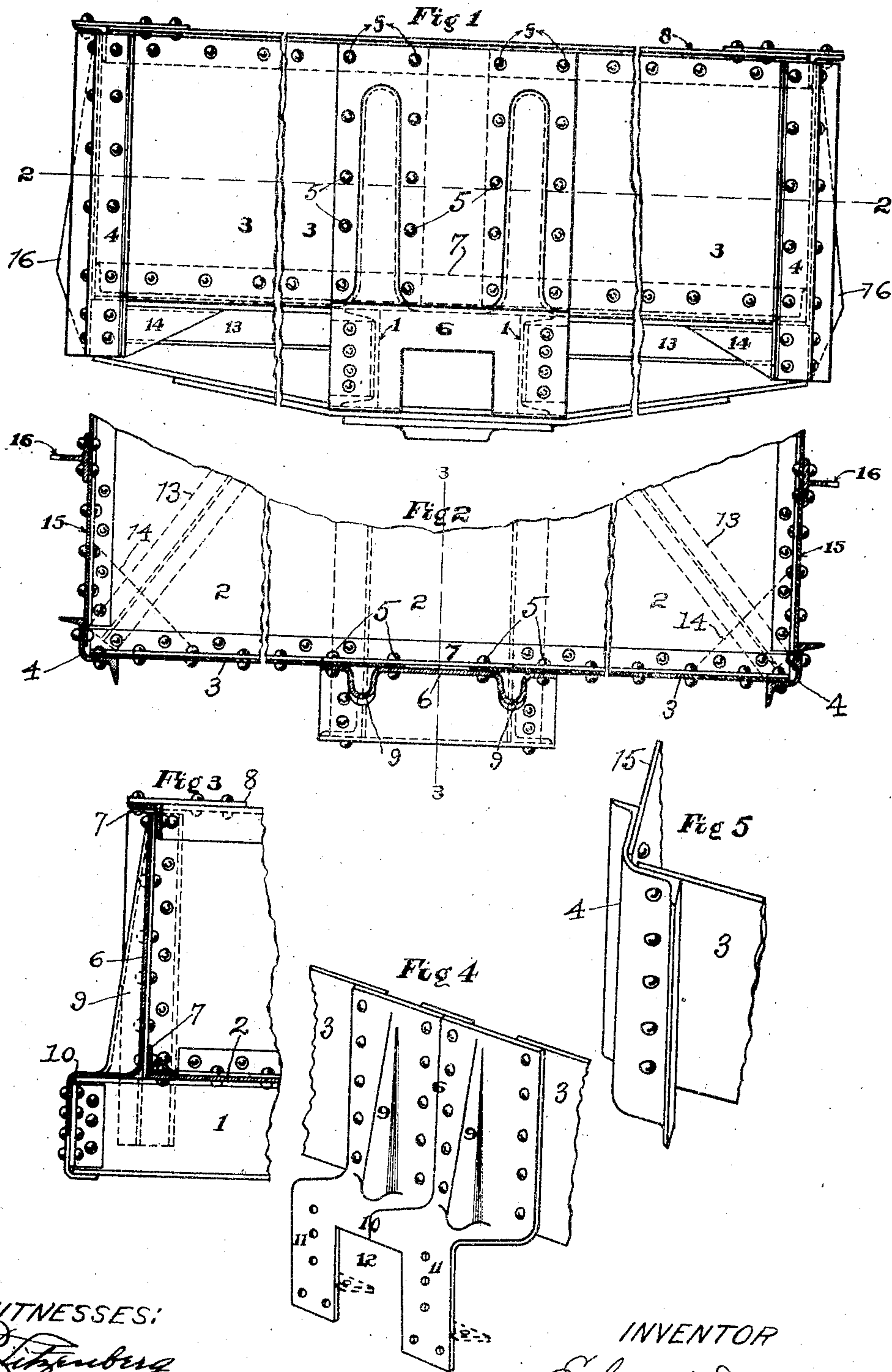


No. 826,652.

PATENTED JULY 24, 1906.

E. I. DODDS.
METALLIC CAR CONSTRUCTION.
APPLICATION FILED MAR. 27, 1905.



WITNESSES:
[Signature]
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UNITED STATES PATENT OFFICE.

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METALLIC CAR CONSTRUCTION.

No. 826,652.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed March 27, 1905. Serial No. 252,389.

To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, and a resident of Avalon, county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Metallic Car Construction, of which the following is a specification.

The present invention relates to the end construction of a car made wholly or largely of steel; and its object is broadly to produce a car of this character which is strong, durable, and capable of resisting the strains to which the car is subjected in the way of end and lateral thrusts at the car ends.

The invention is particularly applicable to gondola cars, although it will be understood that the same principles of construction can be applied to other types of freight-carrying cars.

A further object of the invention is to make the car ends easy of repair in case of the bending or twisting of the end members by reason of accident.

It is recognized as generally advisable in the construction of gondola cars to reinforce the ends with ribs or other supporting or strengthening means, and it has been customary to employ for this purpose angle-irons placed upon the end sills of the car and secured thereto and to the car ends by means of rivets. It is also usual for the car ends to be made in one plate extending transversely of the car from side to side. In place of the described construction I propose to build up each car end of two or more plates and to provide a pressed-steel uniting member for joining the same, the said uniting member being further supplied with an extension adapted to pass down over the ends of the draft-sills and to provide a suitable covering therefor as well as a support for the shank of the draw-bar. This uniting member will also generally be provided with ribs or embossments for increasing its strength and that of the entire end construction.

By the means described a compact and durable end construction is provided for cars, while at the same time the end of the car is sufficiently subdivided, so that in case of an accident whereby the end is bent or twisted there will be no difficulty in finding a furnace big enough to effect the needed repairs, where-

as this difficulty exists in a high degree when a car end consisting of a single plate of metal is thrown out of true and needs to be re-stored.

Another feature of my invention is that of utilizing as a corner member a rolled piece of metal of channel cross-section, the same being pressed back along its web and providing an ornamental corner structure as well as a support for a reinforcing corner member.

Referring to the accompanying illustrative drawings, Figure 1 is an end elevation of a gondola car to which my invention is applied. Fig. 2 is a plan sectional view taken along the line 2 2 in Fig. 1. Fig. 3 is a vertical section taken along the line 3 3 in Fig. 2. Fig. 4 is a perspective view of the uniting member for the end plates, showing also the extension for covering the draft-sill; and Fig. 5 is a perspective view of the corner member formed of bent channel-steel.

In the drawings, the draft-sills are shown at 1 1. These may be the ends of longitudinal center-sills of the car, that extend past the body-bolster and project, if desired, beyond the end of the car. Above the main body of the sills are floor-sheets, (shown at 2,) and above the ends of the sills are plates 3 3, shown in the present instance as two in number. These plates extend from the corner members 4 4 toward the middle of the car end and are joined by two rows of rivets 5 5 to the uniting member 6, above described. Angle-pieces 7 7 are joined by rivets to the floor-sheets 2 2 and to the lower sides of the end plates 3 3. Similar means connect the upper sides of the end plates to the top rail 8.

The uniting member 6 may be made in two pieces, as illustrated in Fig. 4, or in a single piece, as shown in Fig. 1. It is provided with ribs or embossments 9 9, and also with an extension 10, formed with two bent portions 11 11, having an opening 12 between them. The bent portions cover the ends of the draft-sills 1 1, while the opening 12 admits the usual draft-bar and permits the free movement of the same.

The floor-sheets 2 2 are supported at the corners by rolled members 13 13, which project out from the body-bolster toward the corners of the car. These corners are provided with flanged members 14 14, riveted

to the floor-sheets and to the corner members 4 4.

It will be noted that the corner members are formed by bending channel-pieces backward, thus leaving an ornamental finish at the car-corners and at the same time serving the usual purposes of corner members. It will also be seen that the car ends are made up of comparatively small plates, which can be straightened in an ordinary furnace after being accidentally bent or twisted. The uniting member serves not only as a stiffener in a vertical direction, but also as a butt-strap for the end plates. The whole construction admits of the parts being readily separated and replaced, or a new plate or other member can, in case of necessity or convenience, be substituted in place of an old one.

The entire organization, composed of the end plates 3 3 and the uniting members 6, may be regarded as a unitary structure constituting the end of a car.

At 15 I show side plates extending from the corner members to the side stakes 16 16.

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

I claim as my invention—

1. An end member for cars comprising a plurality of end plates and a uniting member constituting a butt-strap therefor and provided with embossments extending from approximately the plane of the upper surface of the draft-sills toward the top of the car, substantially as described.

2. An end member for cars comprising a plurality of end plates, and a uniting member constituting a butt-strap therefor, and provided with embossments tapering from approximately the plane of the upper surface of the draft-sills toward the top of the car, substantially as described.

3. An end member for cars comprising a plurality of end plates, and an uniting member constituting a butt-strap therefor and provided with extensions covering the ends of the draft-sills, substantially as described.

4. In a car, an end covering for the draft-sills, the said covering forming part of an end structure provided with vertical embossments, substantially as described.

5. In a car having draft-sills, an end member having vertical embossments and a horizontal flange extending over the draft-sills, substantially as described.

6. In a car having draft-sills and plate-girder sides, the combination of one or more end plates, a pressed embossed end member having one or more vertical ribs arranged centrally of the car end and attached to said end plate or plates, and corner members join-

ing said end and side plates, substantially as described.

7. In a car having the usual body-bolster and side and end plates, a diagonal brace extending from the body-bolster to the car-corner, and a corner member of channel cross-section forming a compression member and extending from the top corner-angle downward below the plane of the floor of the car, in combination with an angular flanged member uniting said corner member at the top with the transverse angular pieces, and an angular flanged member at the bottom uniting said corner member with the diagonal brace, substantially as described.

8. As a corner member for cars, a piece of channel metal bent longitudinally so as to leave its flanges extended outwardly, substantially as described.

9. In a railway-car, the combination of a plate-girder side, an end plate, and a corner member fastened to said side and end plate, comprising a channel-bar whose web is bent longitudinally to form an angle with its flanges extended outwardly, substantially as described.

10. As a corner member for cars, a piece of channel metal bent so as to leave its flanges outward, in combination with side and end car-plates, secured to the corner member, substantially as described.

11. The combination with a car having longitudinal center-sills and flying transoms projecting from the center-sills and also having end and side plates, of a corner member consisting of a piece of channel metal bent so as to have its flanges outward, substantially as described.

12. In a car, a pressed-steel corner member of angular form, having a continuous flange around two of its sides and in engagement with the floor-sheets, in combination with longitudinal and angle members at the corner of the car and underneath said floor-sheets and angles, and secured to the bottom end of the bent channel corner member, substantially as described.

13. A car having metallic ends and sills, in combination with a double-flanged corner member with its flanges extended outwardly formed from a channel member, said member being supported by the underframe, substantially as described.

Signed at Chicago, in the county of Cook and State of Illinois, this 20th day of March, A. D. 1905.

ETHAN I. DODDS.

Witnesses:

SAMUEL N. POND,
FREDERICK C. GOODWIN.