

No. 846,646.

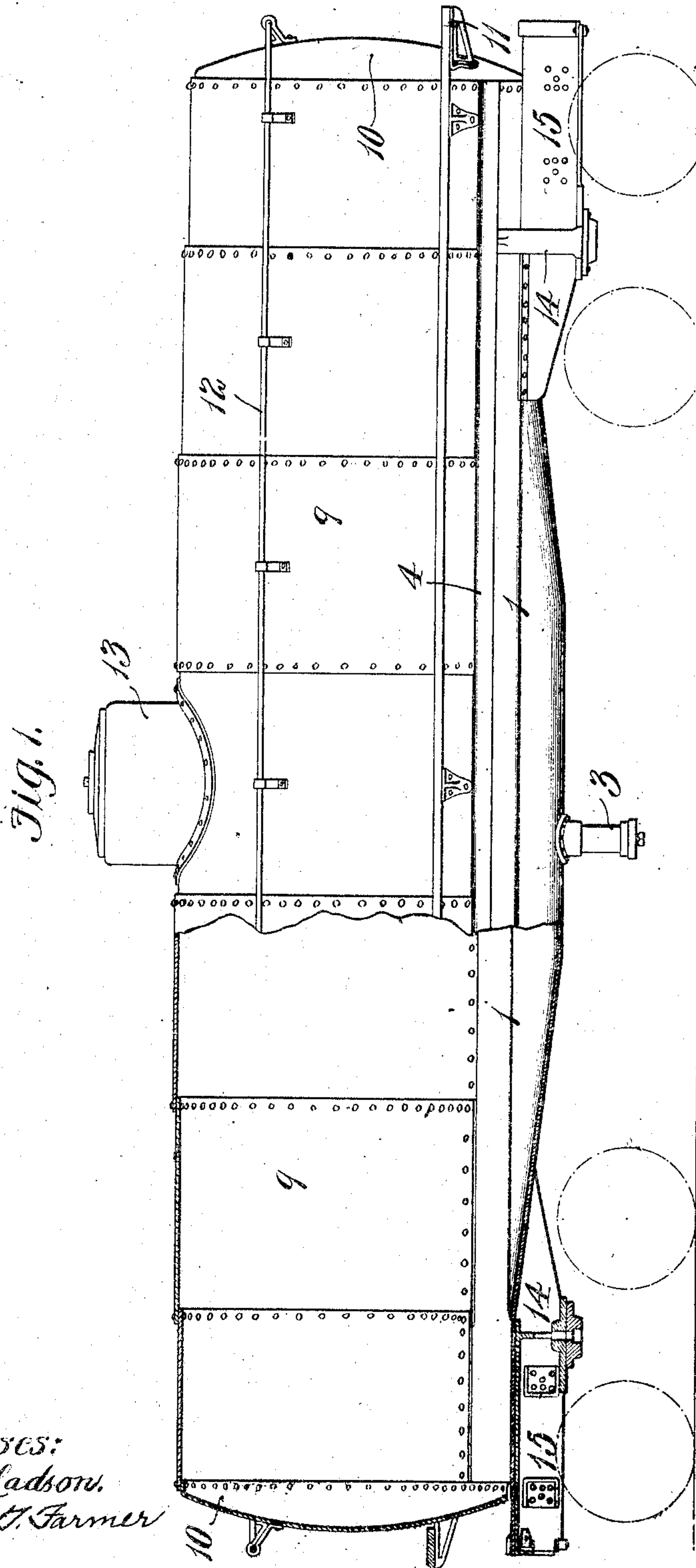
PATENTED MAR. 12, 1907.

T. R. BROWN.

TANK CAR.

APPLICATION FILED DEC. 1, 1906.

2 SHEETS—SHEET 1.



Witnesses:
Geo. R. Ladson.
Edgar C. Farmer

Inventor;
Thomas R. Brown.
By
Asa K. Russell
attys.

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2 SHEETS—SHEET 2.

Fig. 2.

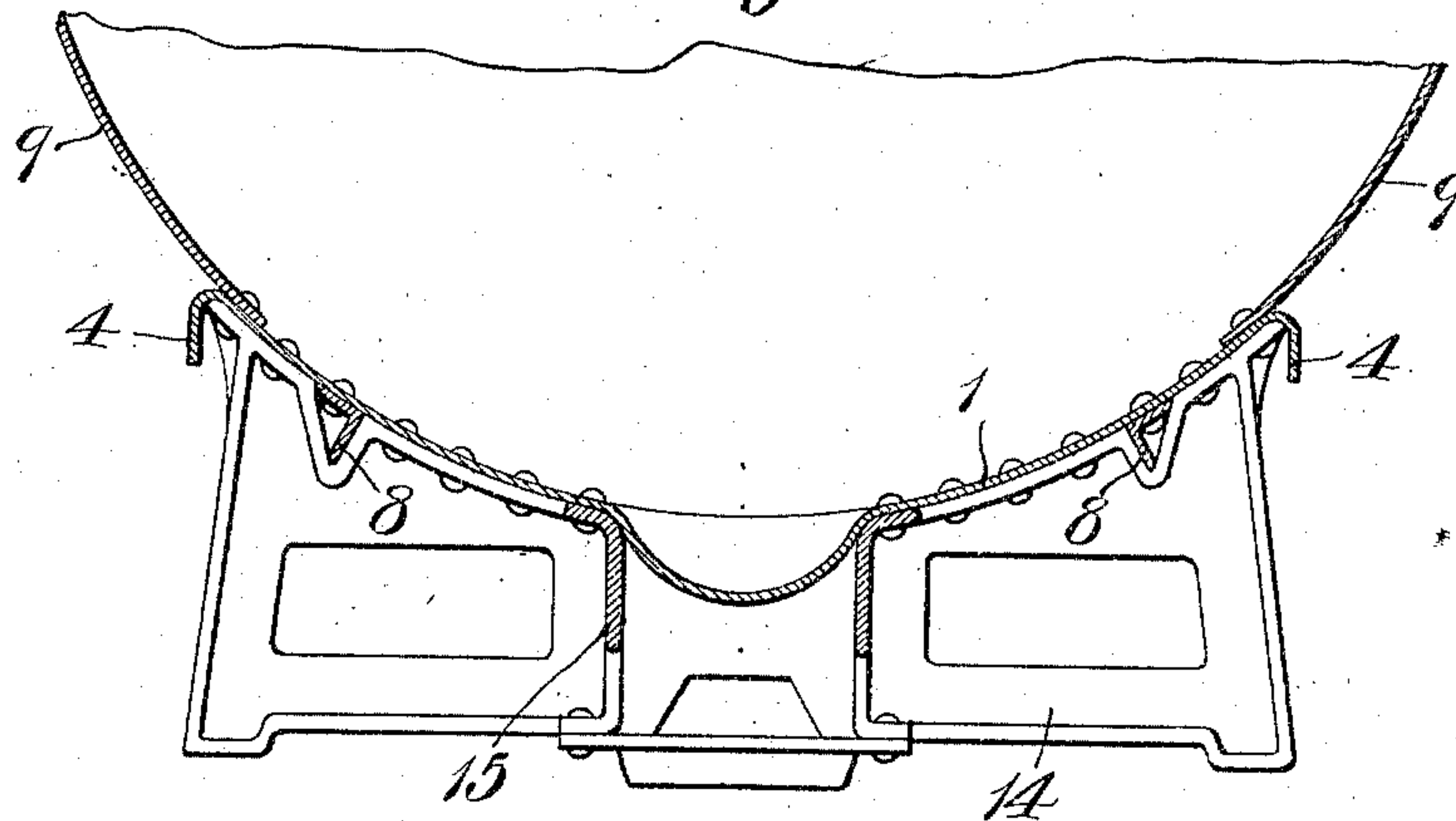


Fig. 3.

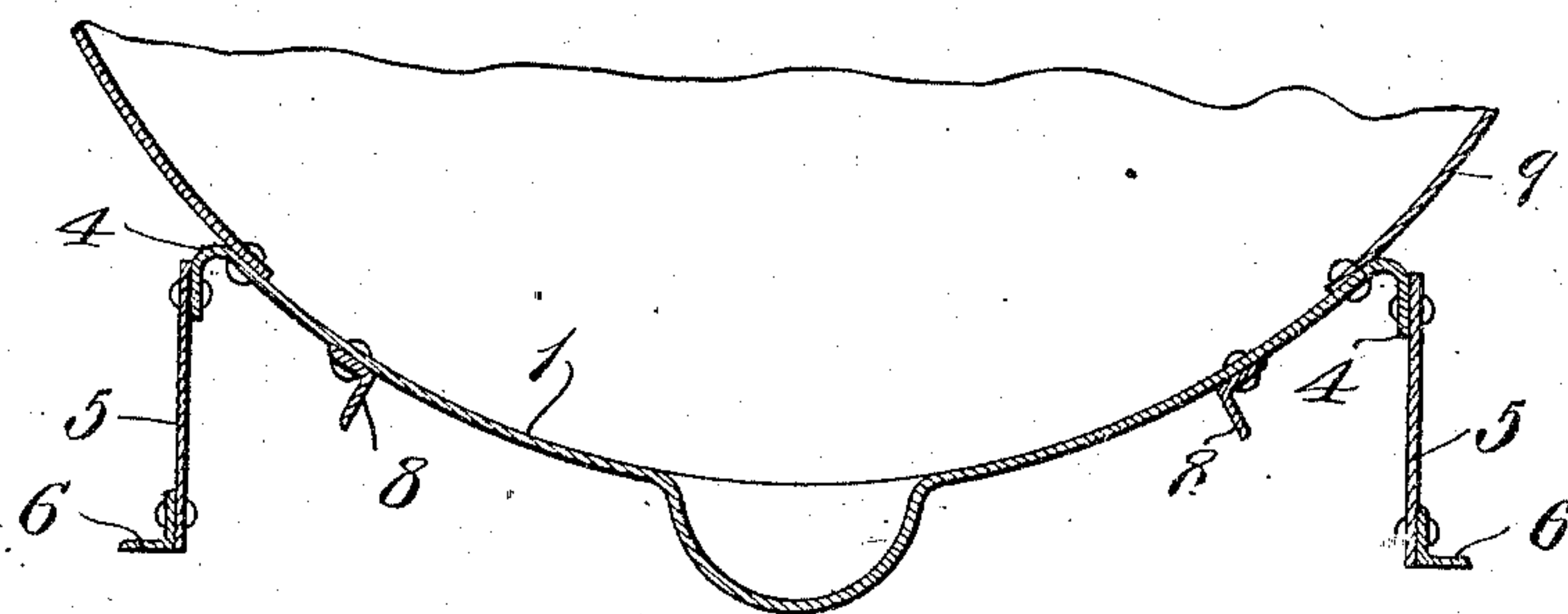
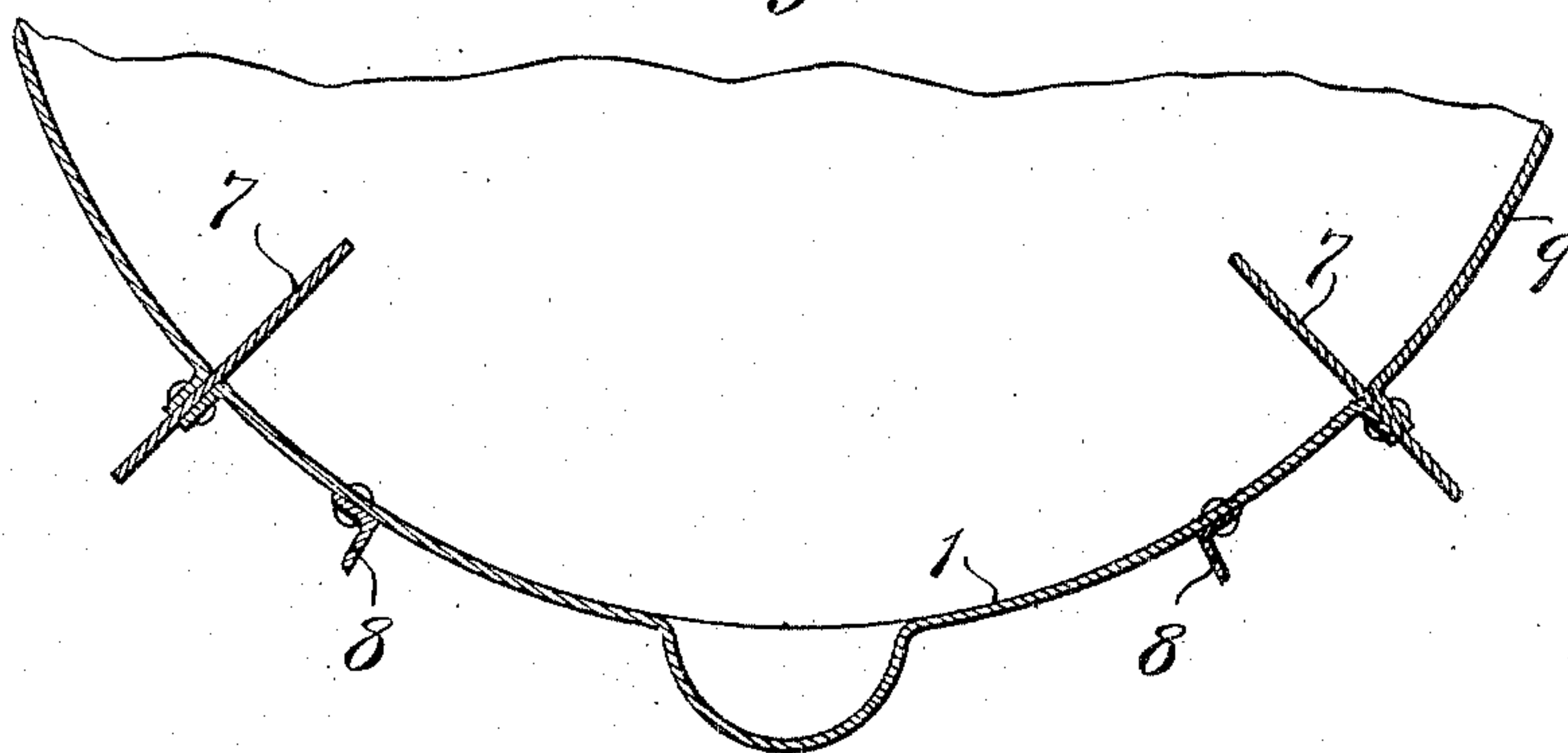


Fig. 4.



Witnesses:

Geo. R. Ladson.
Edgar T. Farmer

Inventor,
Thomas R. Brown.
By *Bakewell Cornwall*
attys.

UNITED STATES PATENT OFFICE.

THOMAS R. BROWN, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN CAR & FOUNDRY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

TANK-CAR.

No. 846,646.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed December 1, 1906. Serial No. 345,854.

To all whom it may concern:

Be it known that I, THOMAS R. BROWN, a citizen of the United States, residing at the city, county, and State of New York, have invented a certain new and useful Improvement in Tank-Cars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevational view, partly in vertical section, of my improved tank-car. Fig. 2 is a cross-sectional view on the line 2-2 of Fig. 1, and Figs. 3 and 4 are cross-sectional views illustrating modified forms of my improved tank-car.

This invention relates to a new and useful improvement in tank-cars, the object being to construct a car in which the plate forming the bottom wall of the tank constitutes the main supporting member, the same extending from bolster to bolster and being reinforced by integral or connected flanges, whereby the load in the tank is amply sustained.

Another feature of my invention consists in dispensing with a center sill and utilizing the bottom plate of the tank as a medium through which the buffing and pulling stresses are transmitted.

In the drawings, 1 indicates the bottom plate of the tank, which, as shown, extends from end to end of the tank, although said bottom plate could terminate at the bolster-points, if so desired. This bottom plate is preferably made of material sufficiently heavy to carry the weight imposed upon it and is reinforced by a longitudinally centrally-arranged trough-like depression made deepest at its middle and tapering thence toward its ends. This reinforcing enlargement makes the tank non-circular in cross-section and likewise provides a "sump" through which the contents of the tank may drain to the discharge-valve 3. The side edges of this supporting-plate may be flanged, as shown at 4, for the purpose of adding strength, and to these flanged side edges may be riveted strengthening members 5, (see Fig. 3,) the ends of which may be connected to the bolsters and the lower edges of which may be reinforced by angles 6, or said flanges

may be connected to plates 7, whose inner edges extend inside of the tank, as shown in Fig. 4. This plate 1 may also be reinforced by angles 8, extending longitudinally and secured to said plate on each side of the trough-shaped reinforcing depression, as shown in Figs. 2, 3, and 4.

9 are the circumferential plates forming the side and top walls of the tank, whose edges telescopically engage each other and are riveted together and to the longitudinal edges of the plate 1.

10 are the tank-heads, which may be of usual construction.

11 is the footboard, and 12 is the hand-rail.

13 indicates the filling-dome.

14 (see Fig. 2) is the bolster, preferably in the form of a casting, or the same may be made of pressed structural steel, said casting being provided with draft members 15, in which the draft-rigging may be supported.

In Fig. 4 the circumferential sheets constituting the side and top members of the tank are secured at their lower longitudinal edges by means of outwardly-turned flanges, through which the securing-rivets are passed.

From the above description it will be seen that my improved tank-car requires no underframe, as the bottom plate of the tank itself serves as a support for the lading, in addition to which, by reason of the trough-like reinforcing depression and its side flanges, it is made sufficiently strong to resist torsional as well as buffing and pulling stresses.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a tank-car, a tank sheet or plate having a longitudinally-disposed trough-like depression, and longitudinally-disposed reinforcing-flanges; substantially as described.

2. In a tank-car, a tank sheet or plate having a longitudinally-disposed trough-like depression at its center and having its edges flanged to add stiffness to the structure; substantially as described.

3. In a tank-car, a tank sheet or plate reinforced with flanges at its edges and having circumferential tank-sheets secured to said edges; substantially as described.
4. In a tank-car, a tank sheet or plate extending from end to end of the car and having reinforcing-flanges, and circumferential tank-sheets riveted to said reinforcing-flanges; substantially as described.
5. In a tank-car, a bottom sheet or plate continuous from end to end of the car and forming a medium through which buffing and pulling stresses are transmitted; substantially as described.
6. In a tank-car, a bottom sheet or plate

extending from end to end of the car for supporting the lading and forming a medium through which buffing or pulling stresses are transmitted, and tank-sheets forming the top and side walls of the tank which are secured to said bottom plate; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 20th day of November, 1906.

THOMAS R. BROWN.

Witnesses:

HENRY F. TRAUGH,
H. P. FIELD, Jr.