

C. A. LINDSTRÖM.

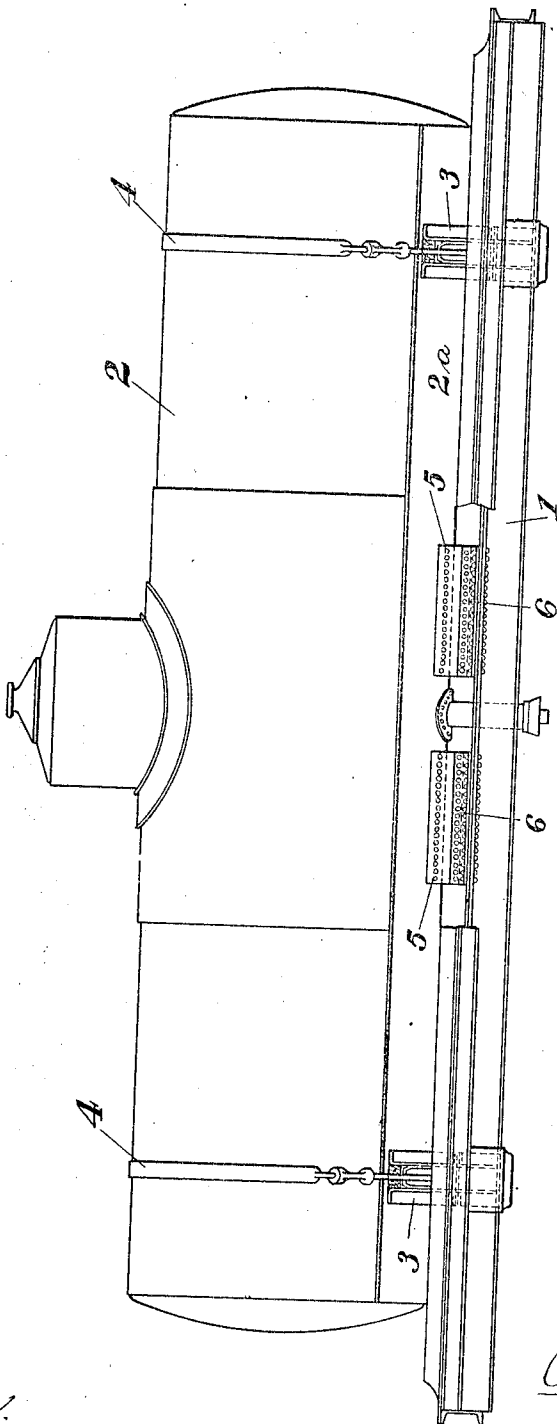
TANK CAR.

APPLICATION FILED JUNE 16, 1909.

Patented Mar. 19, 1912.

2 SHEETS—SHEET 1.

1,020,765.



167

Witnesses

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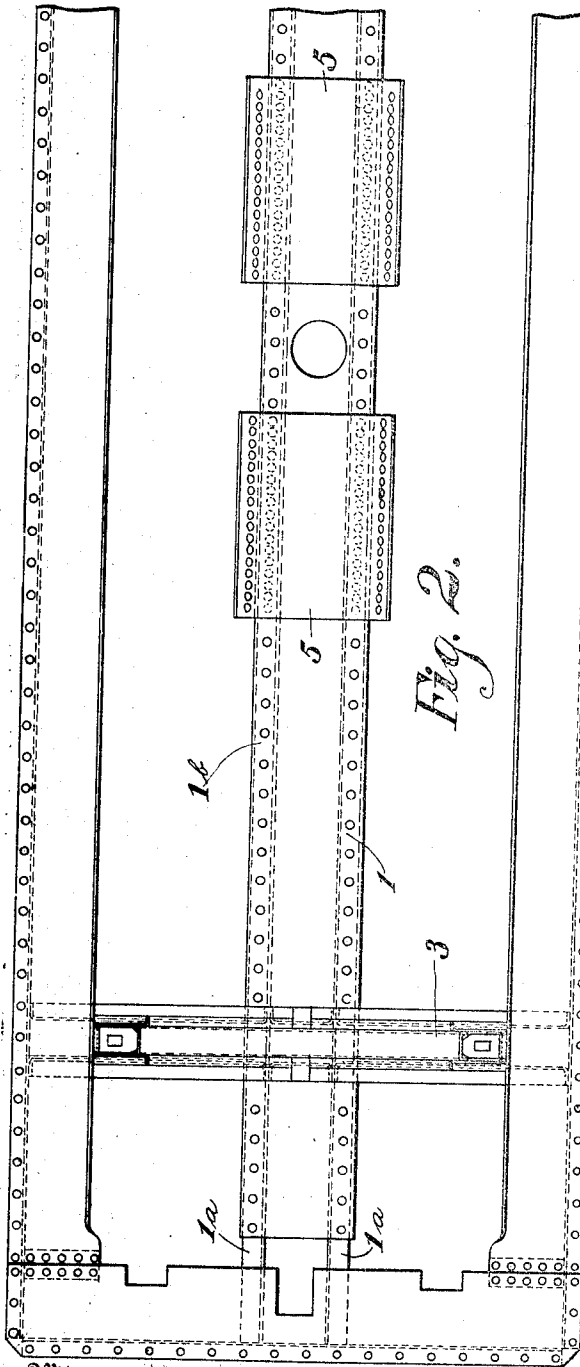


Fig. 2.

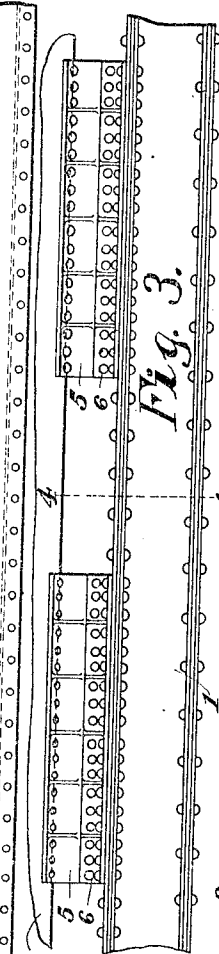


Fig. 3.

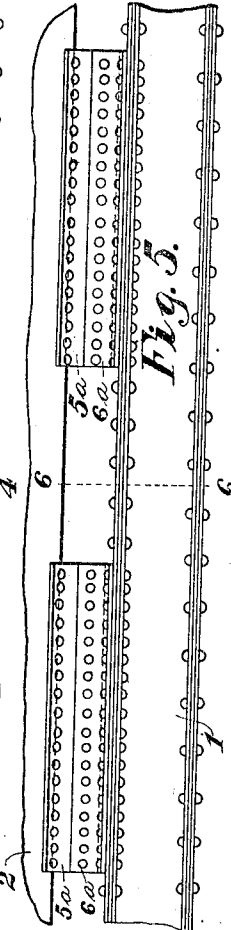


Fig. 5.

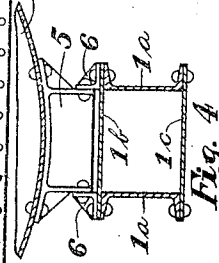


Fig. 4.

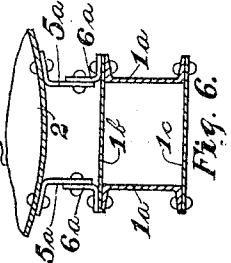


Fig. 6.

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UNITED STATES PATENT OFFICE.

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TANK-CAR.

1,020,765.

Specification of Letters Patent.

Patented Mar. 19, 1912.

Original application filed January 7, 1909, Serial No. 471,078, Divided and this application filed June 16, 1909. Serial No. 502,579.

To all whom it may concern:

Be it known that I, CHARLES A. LINDSTRÖM, citizen of the United States, residing at Pittsburgh, Northside, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Tank-Cars, of which the following is a specification.

The present application constitutes a division of my application filed January 7, 1909, Serial No. 471,078, on improvements in tank cars.

An object of the present invention is to provide an improved form of anchorage for a tank in a tank car of that class where the tank is secured to the underframe at or near its transverse and longitudinal center, and where the tank is supported at or near its ends in such a manner as to permit expansion or contraction of metal due to temperature changes.

A specific object of the present invention is to provide an anchorage of this form in which a fine and accurate adjustment of the tank to the car underframe may be secured.

Such a construction is clearly and accurately described in the specification, and is clearly shown in the accompanying drawings in which like reference characters refer to like parts, and in which—

Figure 1 is a side elevation of a tank car, the trucks being removed, illustrating an embodiment of my invention; Fig. 2 is a plan view of a portion of the same, with the tank removed; Fig. 3 is a side elevation of the structure shown in Fig. 2, showing also a portion of the bottom sheet of the tank; Fig. 4 is a transverse section on the line 4—4, Fig. 3; Fig. 5 is a view similar to Fig. 3, showing a modified construction; Fig. 6 is a transverse section on the line 6—6, Fig. 5.

Referring now in detail to the drawings, 1 represents the car underframe, of suitable construction, 2 the tank, 3 the saddles at or near each end of the underframe which support the tank 2 at or near its ends in such a manner as to permit a relative sliding movement between said saddles 3 and the tank 2. That is to say, there is no rigid connection between the saddles 3 and the tank 2, the tank 2 being held down on said saddles 3 partially by its own weight, partially by the tank anchoring and securing

means hereinafter described, and, if desired, partially by tank stays 4 suitably located relative to the length of the tank.

5 are saddles or cradles extending longitudinally of the car and the tank, preferably one on either side and adjacent the longitudinal center of the tank and underframe, so that they are located approximately at the longitudinal center of the car, but on either side thereof, so as to more effectually support the tank at its center and resist any tendency to sag at this point, resist buffing or pulling shocks, and yet allow for expansion and contraction of metal in the tank due to temperature changes. One form of structure of these saddles 5 is clearly shown in Fig. 4, wherein they are shown as castings suitably ribbed to strengthen the same and provided with a concave upper surface of suitable width and with depending legs or vertical portions, the upper surface being riveted directly to bottom sheet 2^a of the tank 2, the legs or vertical portions of saddles 5 being riveted to and depending between angle pieces or castings 6, upwardly projecting angle pieces or castings 6 being themselves riveted to the car underframe.

The center sill construction of the underframe is of any suitable form, such as shown, where it comprises a pair of channels 1^a spaced by upper and lower cover plates 1^b, 1^c. The advantage of thus forming this securing means or anchorage for the tank lies in the fact that the cradle or concave member 5 may be riveted to the tank 2 and the supporting angle members 6 riveted to the underframe independently of each other, the tank 2 with its depending saddles or cradles 5 being then placed upon the saddles 3, or other supporting means, so that such members 5, or their legs or vertical portions, depend between the supporting or angle members 6, after which said member 6 may be riveted to the depending or vertical portions or legs of the saddle members 5, thus securing a fine and accurate adjustment of the tank to the underframe.

As shown in Figs. 5 and 6, the tank securing means or anchorage may be formed by bent plates 5^a, 6^a, the plates 5^a having their upper edges bent to form concave opposing saddle members which are independent of each other, save that they together form a saddle or cradle for supporting the

tank in the same manner as saddles or cradles 5. Each of the plates 5^a is riveted to the bottom plate of the tank 2; and also to the upwardly projecting bent plates 6^a, which are riveted to the center sills 1^a in the same manner as the angles 6.

In mounting the tank on the underframe, with this modified structure, substantially the same manner of alinement is followed as described in connection with the structure shown in Figs. 2, 3 and 4, the plates 5^a being first riveted to the bottom sheet 2^a of the tank 2, the tank then being placed on its saddles 3 and the plates 5^a and 6^a being riveted together. It will also be noted that this method of connection of the tank to the underframe being located between the underframe and the tank, but above the horizontal plane of the underframe and below the horizontal plane of the sheet 2^a of the tank, does not in any way obstruct the use of riveting tools and, in fact, with this construction it is possible to mount the tank on the underframe and then use suitable perforating tools for perforating the castings 5 and upwardly projecting angles 6 to receive the rivets so that the tank may be located in its final position on the underframe before it is finally secured by rivets.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:—

1. In a tank car, a tank supported at or near its ends on the car underframe to permit expansion or contraction of its metal, and a pair of saddles rigidly secured to said tank and the underframe approximately at the longitudinal center of the car.

2. In a tank car having an underframe and a tank, a saddle or cradle member riveted directly to said tank and means riveted directly to the underframe and to said saddle or cradle member for securing the tank to the underframe.

3. In a tank car having an underframe and a tank in combination with means for supporting said tank, of a saddle or cradle member riveted directly to the tank and means riveted to the underframe and to said saddle or cradle member for anchoring the tank to the underframe.

4. In a tank car having an underframe and a tank, in combination with means for supporting the tank at its ends, a longitudinal saddle or cradle member having a depending portion, and longitudinal means

riveted to the underframe and the depending portion of said saddle or cradle member for anchoring the tank to the underframe.

5. In a tank car having an underframe and a tank, in combination with means for supporting a tank on its ends, a longitudinal saddle or cradle member having a depending portion and a longitudinal angle member riveted to the underframe and to the depending portion of said saddle or cradle member for anchoring the tank to the underframe.

6. In a tank car having an underframe and a tank, a saddle or cradle member riveted directly to said tank and an anchoring member riveted to the underframe, overlapping said saddle or cradle member and riveted thereto.

7. In a tank car, an underframe and a tank in combination with anchoring means secured to the underside of the tank and anchoring means secured to the underframe above the latter, the last mentioned means being secured to the first mentioned means.

8. In a tank car, the combination with an underframe and a tank mounted thereon, of anchoring means on each side of and near the longitudinal center of the car and rigidly secured to said tank and the underframe.

9. In a tank car, the combination with an underframe and a tank mounted thereon, of an anchor means on each side of and near the longitudinal center of the car rigidly secured to said tank and said underframe, each anchor means being independent of the other, and a discharge nozzle located between the two anchor means.

10. In a tank car, the combination with an underframe and a tank mounted thereon, of a tank supporting and anchoring saddle on each side adjacent the longitudinal center of the car, each saddle being rigidly secured to the tank and to the underframe and each saddle comprising an upper portion and a lower portion riveted to said upper portion for the purpose of permitting a fine adjustment of the tank to the underframe.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. LINDSTRÖM.

Witnesses:

H. B. FISHER,
T. B. DENHAM.