L. E. KELLER.

TANK CAR ANCHOR.

APPLICATION FILED JUNE 2, 1909.

991,319.

Patented May 2, 1911.

2 SHEETS—SHEET 1.

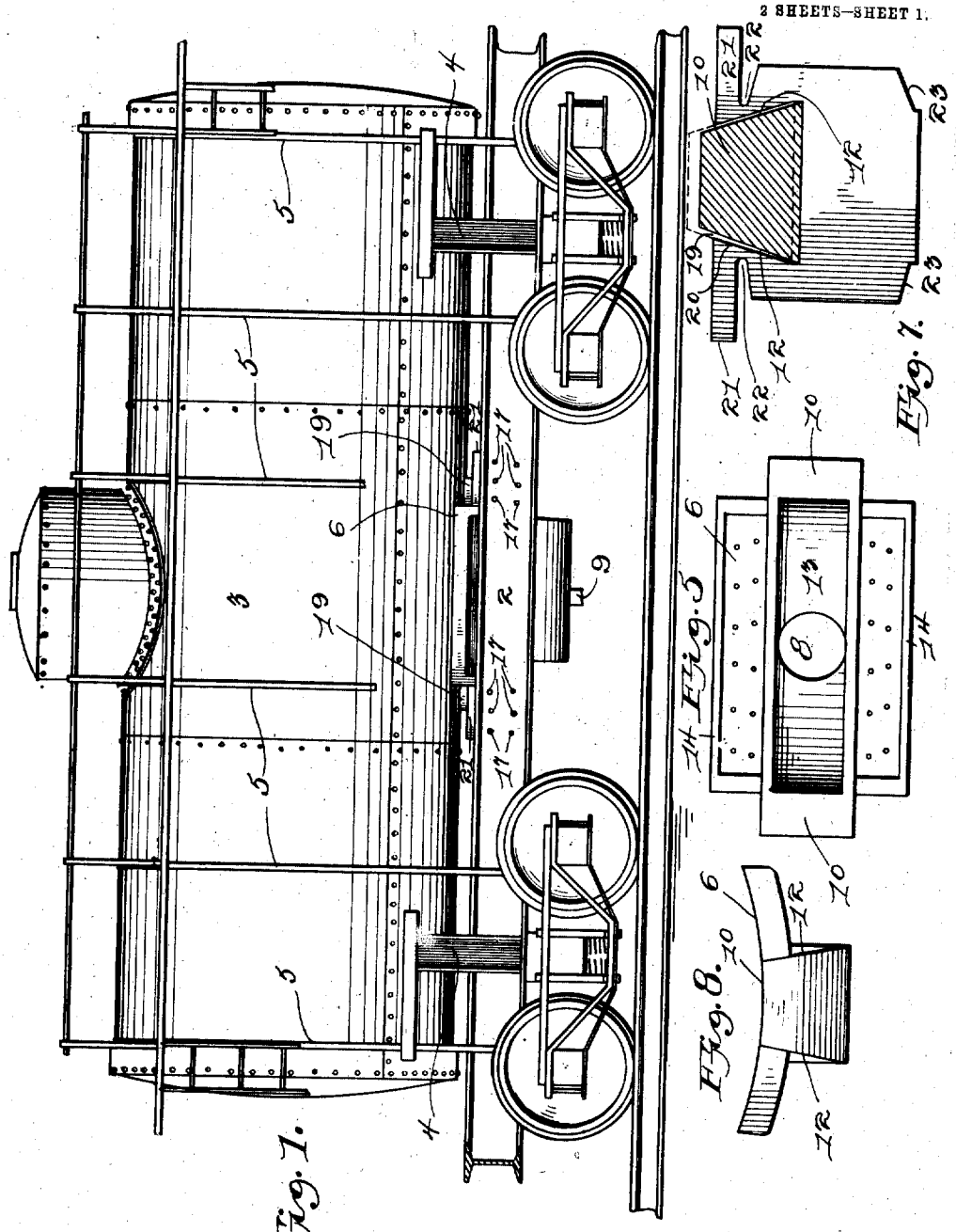

Fig. 1.

Witnesses

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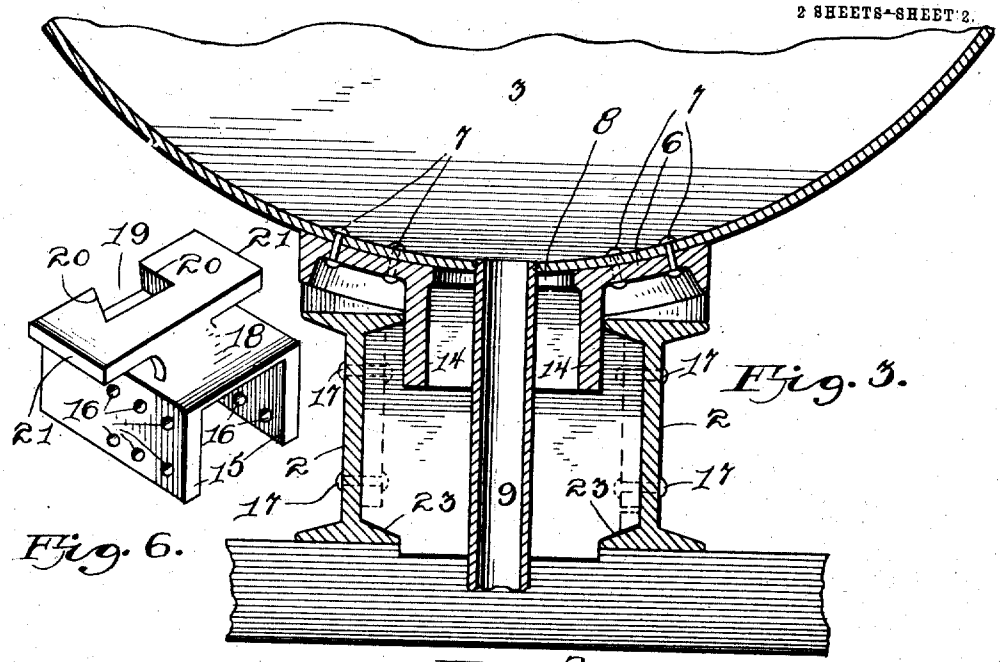

Fig. 3.

Fig. 6.

Fig. 2.

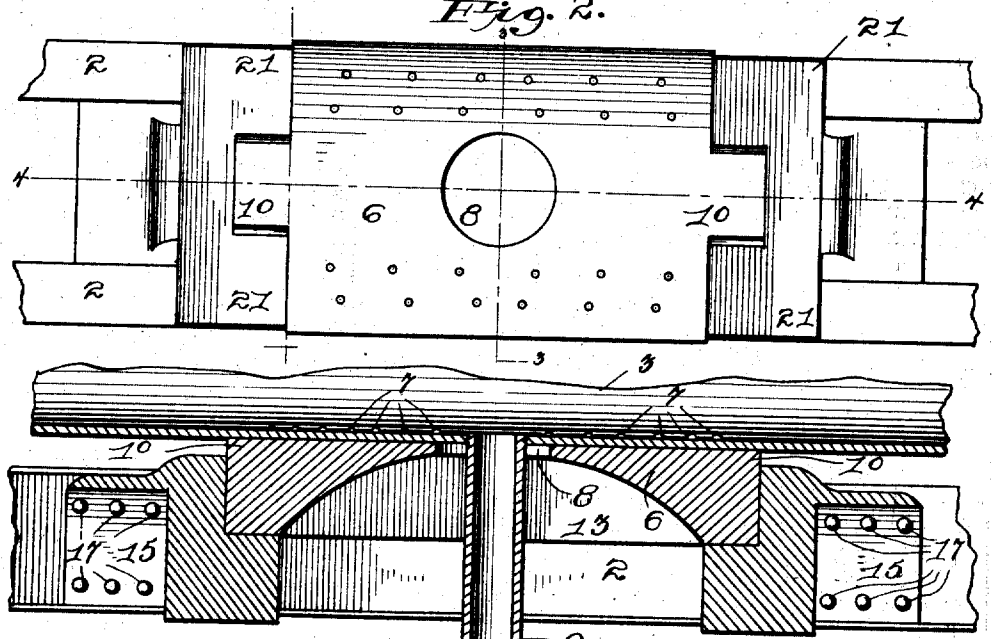

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS E. KELLER, OF OIL CITY, PENNSYLVANIA.

TANK-CAR ANCHOR.

991,319. Specification of Letters Patent. Patented May 2, 1911.

Application filed June 2, 1909. Serial No. 499,671.

To all whom it may concern:

Be it known that I, LOUIS E. KELLER, a citizen of the United States, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Tank-Car Anchors, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to anchoring devices for tank cars, and the principal object is to provide an anchoring device which will securely hold a tank to a car, yet permit sufficient yielding movement of the tank relative to the car to prevent the fasteners for holding the anchoring device to the tank straining the same and thereby avoid danger of the tank leaking.

In carrying out the object of the invention as generally stated above it is contemplated employing socket members adapted for engagement with the longitudinal sills of a car and which have a dovetail connection with an anchor carried by a tank, the said anchor and sockets being so formed that the former has a limited movement relative to the latter, so as to accommodate the movements of the tank relative to said sills in such a manner as to prevent any undue strain being exerted upon the fasteners which secure the anchor to the tank.

It will be understood, of course, that in the practical application of the invention, the essential features of the same are susceptible of structural changes and details, but a preferred and simple embodiment thereof is shown in the accompanying drawings, wherein—

Figure 1 is a side view of a tank car, the tank thereof being supported by and connected to the sills of the car by the improved anchoring device. Fig. 2 is a top plan view of the anchoring device. Fig. 3 is a central vertical sectional view taken on the line 3—3, Fig. 2, a portion of a tank being shown connected to the anchor. Fig. 4 is a similar view taken on the line 4—4, Fig. 2. Fig. 5 is a bottom plan view of the anchor. Fig. 6 is a detail perspective view of one of the sockets carried by a car. Fig. 7 is a vertical sectional view taken on the line 7—7, Fig. 2. Fig. 8 is an end view of the anchoring plate.

Referring to said drawings by numerals, 1 designates a car, and 2 the longitudinally extending oppositely disposed sills thereof, said sills being of the usual I-beams. The tank 3 has its ends supported thereon by the usual end-supports 4, and is also additionally secured thereon by the usual straps 5.

The anchoring device forming the subject-matter of this invention is composed of a concaved plate 6 which is shaped to conform to the contour of the bottom of the tank 3 and is held in rigid relation therewith by means of the rivets or equivalent fasteners 7. Said plate 6 is provided with a central opening 8 which permits the discharge pipe 9 of the tank 3 to project through the same. The plate 6 is provided at each end with a centrally located outwardly projecting extension 10 the outer end of which is, or may be, in a straight vertical plane, as indicated at 11, and whose sides 12 are inclined, the arrangement providing the extension with a narrow top and wider base and forming substantially a dovetail. These extensions may be integral with the plate 6, and, as shown in Fig. 5 extend through the longitudinal central portion of the said plate and are cored out to provide a rounding recess 13 the top portion of which merges into the central opening 8 formed through the plate 6, and whose side members 14 fit between the two sills 2 as is shown in Fig. 3.

A pair of socket members coöperate with the anchoring plate 6 to hold the tank to the sills 2, said socket members being of duplicate construction and provided with vertical side members 15 adapted for a snug fit between the sills and having openings 16 formed through them for the passage of rivets or equivalent fasteners 17 which pass through similar openings formed in the webs of said sills. A top plate 18 connects said side members 15, said plate 18 carrying at one end a vertically disposed socket 19 the sides 20 of which are inwardly inclined complemental to the sides of the extensions 10 of the plate 6. The upper end of said socket projects a slight distance above the top plate 18 and is provided with outstanding horizontally arranged flanges 21 beneath which recesses 22 are formed for the reception of the inner edge of the upper flanges of the I-beams or sills 2. The bottom of the socket has its edge 23 beveled to form a seat for engagement with the top surface of the base flange of said sills 2.

The extensions 10 of the plate 6 are of a slightly smaller size than the sockets 19 so that when said sockets and extensions are in dovetailed engagement, the said plate 6

will have a limited "play" within said sockets to accommodate for the lurching or the anchoring plate 6 to hold the tank car incidental to the tank's transportation.

As is shown in Fig. 1 of the accompanying drawings, the improved anchoring device is centrally located on the car and the tank, and but one has been shown. Obviously more than one may be employed when necessary or desirable, and in such case their location would necessarily be a little off from the center.

What I claim as my invention is:—

1. A device of the character described comprising a plate carried by a tank, and a pair of sockets carried by a car and with which said plate has a loose engagement.

2. A device of the character described comprising a plate carried by a tank and provided with end extensions, and a pair of sockets carried by a car and with which said extensions have a loose engagement.

3. A device of the character described comprising a plate carried by and conforming to the contour of the bottom of a tank, a pair of sockets having an interlocking engagement with the sills of a car and with which said plate has a loose engagement.

4. A device of the character described comprising a concaved plate having centrally located outstanding end extensions, and a pair of sockets with which said extensions have a loose engagement.

5. A device of the character described comprising a concaved plate provided with centrally located end extensions the sides of which are inclined, and a pair of sockets having inclined walls with which said extensions loosely engage.

6. A device of the character described comprising a concaved plate carried by a tank, centrally located outstanding extensions projecting from the ends of said plate, and a pair of sockets having an interlocking engagement with the sills of a car and with which said extensions have a loose engagement.

7. In combination with the longitudinally extending sills of a car, a pair of socket members having flanges for interlocking engagement with said sills, a plate carried by a tank, and end extensions carried by said plate and having an interlocking loose engagement with said sockets.

8. In a device of the character described, the combination with the longitudinally extending sills of a car, of a pair of socket members arranged between said sills and having a rigid engagement therewith, and a plate carried by a tank and having an interlocking loose engagement with said socket members.

9. In a device of the character described, the combination with the longitudinally extending sills of a car, of a pair of socket members arranged between said sills and having an interlocking engagement therewith, and a plate carried by a car and provided with end extensions having an interlocking and loose engagement with said socket members.

10. In a device of the character described, the combination with the longitudinally extending sills of a car, of a pair of socket members having a rigid engagement between said sills and provided with flanges which overhang said sills and also with a bottom rest which engages with the base of the sills, and a plate carried by a tank and having a loose engagement with said socket members.

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

LOUIS E. KELLER.

Witnesses:
FRED A. STECK,
JOHN M. MCGILL.