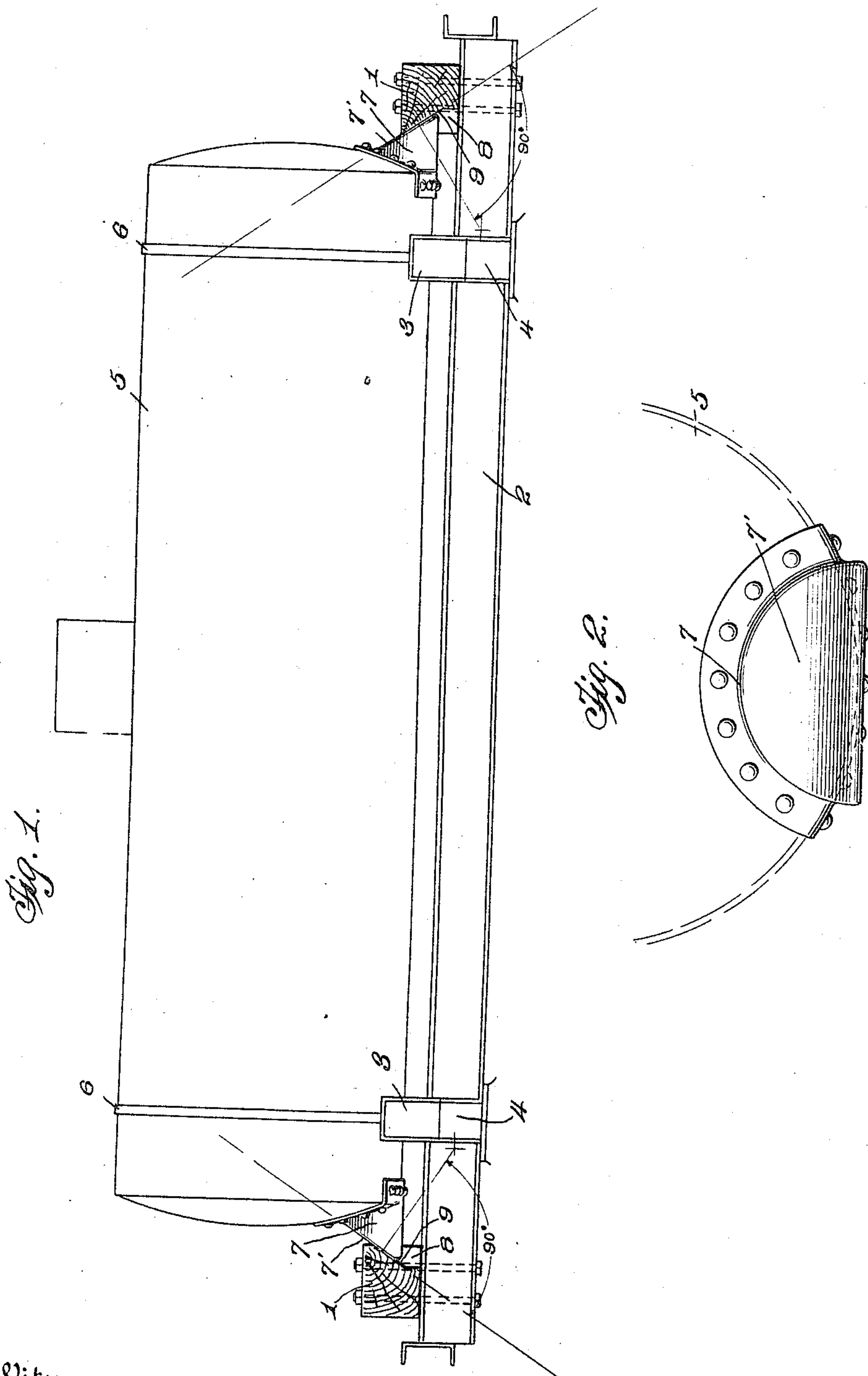


TANK CAR.

APPLICATION FILED MAR. 31, 1910.

959,817.

Patented May 31, 1910.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## TANK-CAR.

959,817.

Specification of Letters Patent.

Patented May 31, 1910.

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*To all whom it may concern:*

Be it known that I, VICTOR M. SUMMA, residing at St. Louis, Missouri, and being a citizen of the United States, have invented certain new and useful Improvements 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 to use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

In said drawings: Figure 1 is a view, in side elevation, of a tank embodying the features of the present invention, the head block being illustrated in section. Fig. 2 is an end view of one of the extension brackets, the relative position of the tank being indicated in dotted lines.

In the present art difficulty has been experienced in preventing the sagging of the ends of the car frame, and at the same time it has been found necessary to provide center supports for the tank for taking up the bending moment at the center. The present invention provides for a distribution of stresses for causing the center bending moment to offer a counteracting force against the tendency of the ends of the car frame to sag.

In carrying out the invention I preferably provide head blocks 1, 1 mounted on and fixed to the usual underframe 2, which latter is provided with the usual cradles 3 forming the upper portions of bolsters 4. Mounted on the cradles 3 is the tank 5 which is retained in position against lateral movement by the usual straps 6, 6.

Fixed to each end of and extending outwardly from tank 1 is a bracket 7 which may be of various shapes but is essentially distinguished by the position of the beveled or cam face 7', and each bracket extends into a recess 8 formed in the respective block 1, which recess is provided with its upper sur-

face beveled for forming a cam as indicated at 9, the beveled surface 9 being engaged by the under-hanging portion of the beveled surface of bracket 7. Thus any tendency toward longitudinal thrust of tank 5 due to shocks and buffing exerts lifting pressure on the blocks 1 thus tending to elevate and prevent sagging of the ends of the frame.

As graphically demonstrated in Fig. 1 of the drawing the perpendicular component of the lateral stress transmitted to the blocks 1 is in direct lines with the bolsters 4. Obviously the bending moment at the center of the tank 5 tends to elevate the ends of the tank acting on the cradles 3 as fulcrums, which stress thus transmitted in turn serves to maintain the ends of the frame against sagging.

What I claim is:

1. In a tank car, the combination with a frame and a tank mounted thereon of means connected with the ends of the tank, and under-hanging portions of the frame positioned and adapted for transmitting lifting stresses to the end portions of the frame as components of the bending moment of the central portion of the tank.

2. In a tank car, the combination with a frame having inclined beveled portions contiguous the ends, and a tank mounted on said frame, of extensions projecting from the ends of the tank and under-hanging said inclined portions in position for engaging the same.

3. In a tank car, the combination with a frame, and a tank mounted thereon, of extensions projecting from the ends of the tank and having inclined surfaces underlying portions of the frame.

4. In a tank car, the combination with a frame, and a tank mounted thereon, of a bracket extending from one end of the tank longitudinally of the frame, and having an inclined portion underlying a portion of the frame contiguous to the end thereof.

5. In combination, a frame having bolsters with upstanding cradles, a tank mounted in said cradles and having its ends extending beyond the cradles and its intermediate portions between the saddles inde-



pendent of the frame, and means at the ends of the tank under-lapping portions of the frame contiguous the ends thereof.

6. In a tank car, the combination with a frame having a head block contiguous each end thereof, and a tank mounted on the frame, of a bracket fixed to each end of the tank and extending outwardly therefrom longitudinally of the frame and under-lap-

ping a portion of the respective head block, the lap portions having inclined meeting surfaces.

In witness whereof, I have hereunto set my hand in the presence of two witnesses.

VICTOR M. SUMMA.

Witnesses:

OSCAR HOCHBERG,  
CHARLOTTE MITZE.