

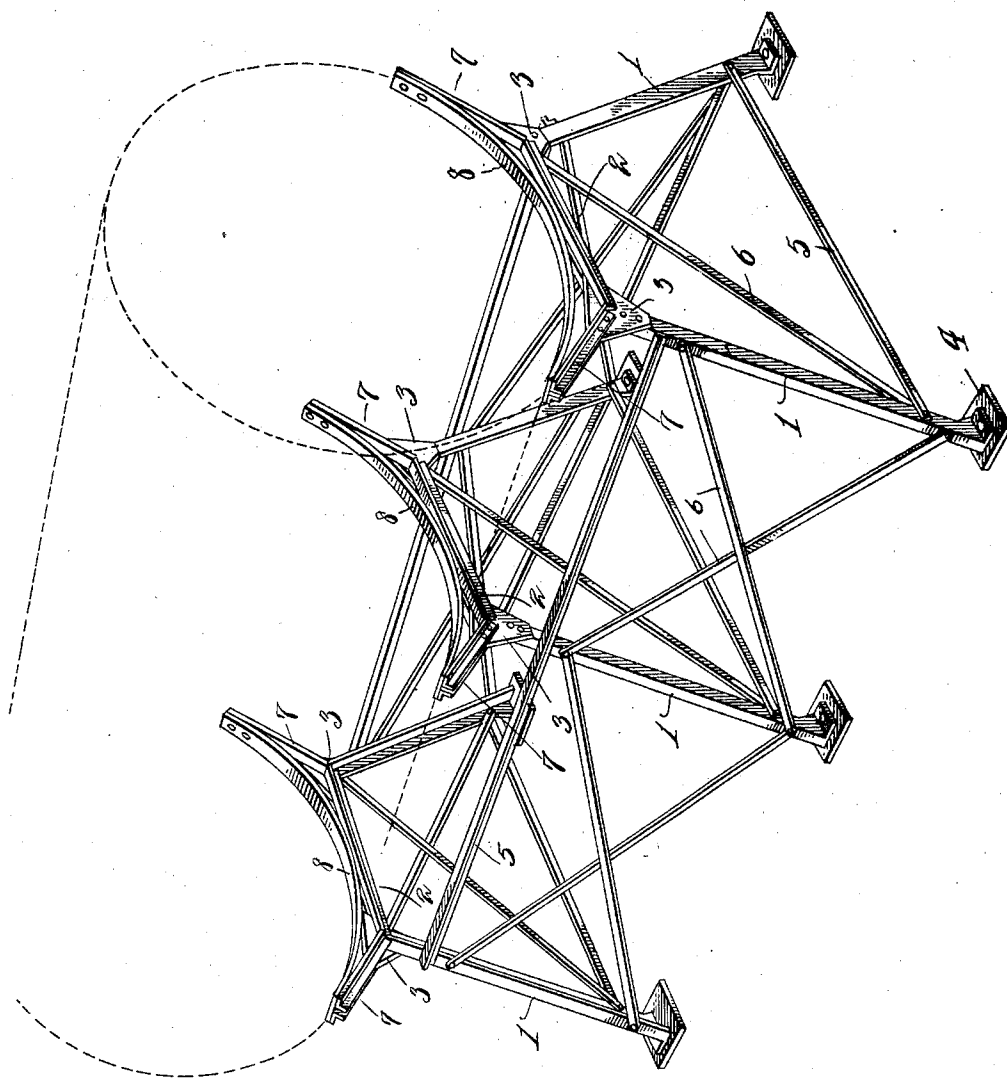
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TANK SUPPORT

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TANK SUPPORT

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This invention is a support for cylindrical metal tanks and the object of the invention is to provide a support which is adaptable to tanks of various diameters and which will conform to the circumference of the tank without requiring adjustment before the tank is placed in position. The invention is illustrated in the accompanying drawing and will be hereinafter fully set forth.

The drawing shows a perspective view of a tank support embodying the invention, the tank being indicated by dotted lines.

The frame of the support consists essentially of pairs of legs 1 which converge upwardly and are connected at their upper ends by struts or cross beams 2 rigidly connected to the upper ends of the legs through gusset plates 3 or other connections having the requisite strength as may be preferred. The lower ends of the legs are anchored to concrete bases 4 and as many pairs of legs are provided as may be needed for the particular length of tank which is to be supported. The legs are braced both longitudinally and transversely of the structure by beams 5 and struts 6 which may be provided in any number as judgment may dictate. To the upper extremities of the legs at the ends of the uppermost transverse struts 2 are rigidly secured upwardly diverging arms 7 which are constructed of angle bars and are disposed at such angles that the stresses imposed upon the support by the tank will be exerted along the length of the said arms while the legs 1 are disposed at the proper angles to receive the counter-stresses. Extending between the upper extremities of each pair of arms 7 is a metal band or strap 8 which is constructed of flexible or resilient material and is flat on its upper side so that it will extend between the arms and will curve downwardly above the uppermost struts or cross beams 2. The parts will be so proportioned that the bands or stirrups 8 will be out of contact with the cross bars or struts 2 and they are secured at their ends only. After the support has been erected, the tank is hoisted into place and lowered onto the stirrups or flexible bands so that it will rest directly upon the same. Inasmuch as the bands are flex-

ible they conform at once to the circumference of the tank and thereby support the same so that it is not necessary to perform an elaborate or complicated adjusting operation in order to obtain the desired fit between the support and the tank.

Heretofore steel supports for horizontal tanks, so far as I am aware, have been riveted directly to the shell of the tank or a rigid construction used in that portion of the support upon which the tank rests, and owing to variations in the shapes of tanks and the difficulty of forming rigid members to a true curve, supports of the rigid type do not provide a true bearing for the tank, and prove inefficient in practice. By utilizing flat flexible steel plates fastened at the ends only to the supporting arms, I minimize the material necessary and provide a support which will readily conform to the shape of any tank placed on it. The portions of the plates or bands between their ends being free, they readily conform to comparatively large variations of curvature in the surface of the tank so that a perfect bearing of the tank upon the support is attained and maximum efficiency in the use of the strength of material in both tank and support results. The flexible bands or plates are so designed that they form contact with one-fourth of the circumference of the tank and the supporting arms are placed at such an angle that the direction of stresses transmitted to them at the ends of the flexible bands is along the longitudinal axes of the arms. The horizontal struts or cross beams 2 act as spreaders to prevent the arms moving toward the center and take up part of the stress transmitted along the arms, the balance of the stress being taken up by the legs which are placed at an angle practically the same as the direction of the force necessary to counter-balance the forces acting in the arms and the struts. The connections between the several pairs of legs are more or less conventional in design and serve the usual purpose of sway and wind braces.

Having thus described the invention, I claim:

1. A support for storage tanks comprising

pairs of upwardly converging legs, beams rigidly secured to and connecting the upper ends of the legs, upwardly diverging rigid arms secured rigidly to the upper ends of the legs and the ends of the beams, and flexible bands extending between the arms in the vertical planes of the same and the beams and rigidly secured at their ends to the ends of the arms, the intermediate portions of the bands being free.

2. A support for storage tanks including a rigid frame, rigid arms secured to the top of the frame and arranged in pairs spaced longitudinally of the frame with the arms of each pair at opposite sides of the frame and diverging upwardly therefrom, and flat resilient bands each disposed in the vertical plane of a pair of arms and permanently secured at its ends to the ends of said arms, the intermediate portions of the bands being free to conform to a tank resting thereon.

In testimony whereof I affix my signature.

EDWIN E. BOARDMAN. [L. s.]

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