Nov. 15, 1927.

O. J. PARKS

1,649,542

PIPE SECURING MEANS

Filed June 7, 1926

2 Sheets-Sheet 1

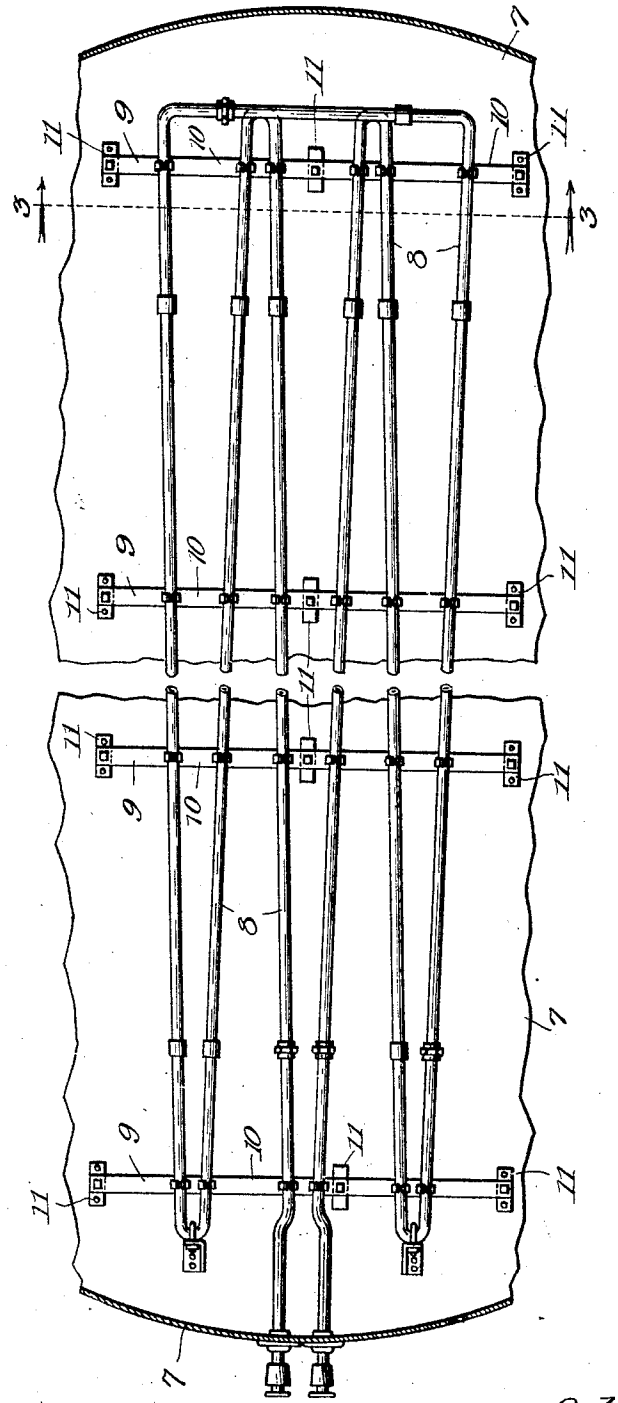


Fig. 1.

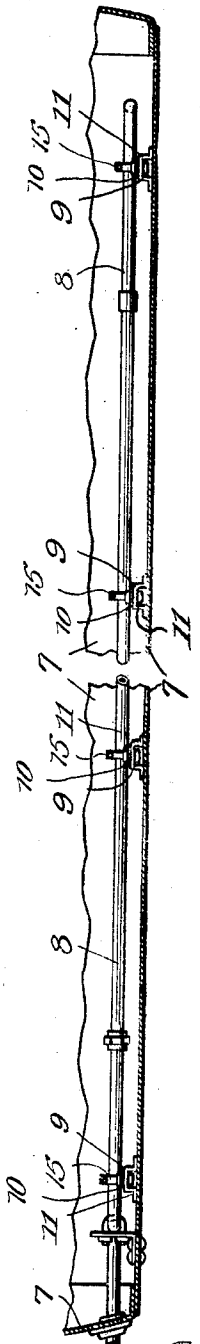


Fig. 2.

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Fig. 3.

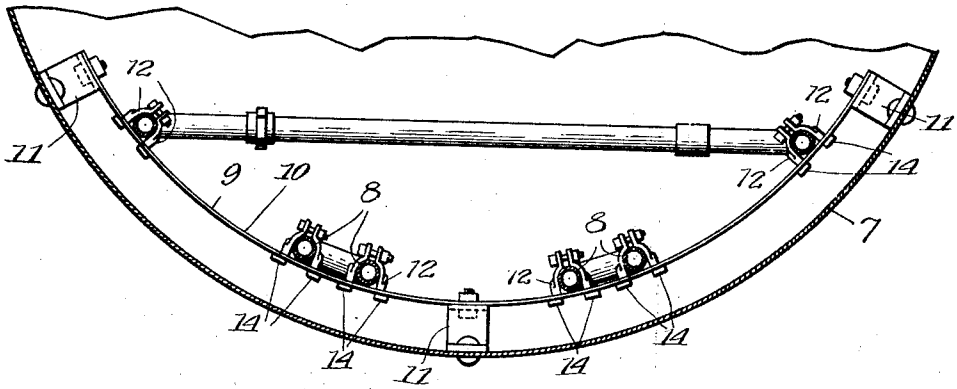


Fig. 4.

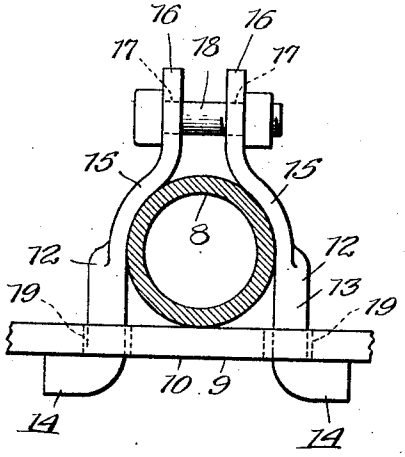


Fig. 5.

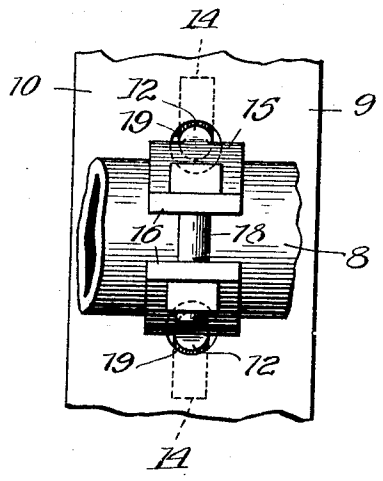
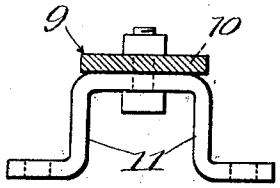


Fig. 6.



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UNITED STATES PATENT OFFICE.

OSTRANDER J. PARKS, OF RIVER FOREST, ILLINOIS, ASSIGNOR TO GENERAL AMERICAN TANK CAR CORP., OF CHICAGO, ILLINOIS, A CORPORATION OF WEST VIRGINIA.

PIPE-SECURING MEANS.

Application filed June 7, 1926. Serial No. 114,221.

My invention relates more particularly, to means for securing pipes, as for example those comprising coils, such as heating coils, in position on railway cars, and especially where the coils flatwise oppose the structure to which they are connected, as for example, and more particularly in tank cars wherein the coils are located inside of the tank and are arranged substantially parallel with, and curved to conform to, the curved side wall of the tank.

My primary objects, generally stated, are to provide a novel, simple and economical construction of pipe-securing means which will meet all of the prescribed, standard, requirements governing the installation of coils on railway cars, especially tank cars; to provide a construction of securing means whereby the necessity of using bolts or nuts at the points of engagement of the securing means with the supports, shall be obviated; to provide a construction whereby the proper clamping pressure against the pipe may be effected by adjusting a single device; to provide a construction whereby the installation of the securing means to operative position, and the removal therefrom, may be quickly and easily performed; and other objects as will be manifest from the following description.

Referring to the accompanying drawings:—

Figure 1 is a broken sectional plan view of a tank equipped with heater coils secured in place in accordance with my invention. Figure 2 is a view in longitudinal sectional elevation of the structure shown in Fig. 1. Figure 3 is an enlarged section taken at the line 3—3 on Fig. 1 and viewed in the direction of the arrows. Figure 4 is an enlarged broken view taken at a line corresponding with the line 3—3 on Fig. 1 and viewed in the direction of the arrows showing one of the plurality of securing means for holding the coils in place on the tank. Figure 5 is a plan view of the structure shown in Fig. 4, and Figure 6, a sectional view showing a detail of one of the similar cradle members to which the coils are secured.

I have chosen to illustrate my invention as embodied in a tank car, the tank of which is provided interiorly thereof, with heater coils for maintaining the contents of the tank at the desired temperature, but without intending to limit my invention thereto. In the construction shown the trunk is shown at 7 and is provided along the lower portion of its curved side wall, with heater coils represented at 8 and supported, to extend in spaced relation to the lower portion of the side wall, on cradles 9 shown as formed of curved bars 10 connected at their ends, and intermediate their ends, with the side wall of the tank, by U-shaped clips 11, these cradles being arranged in spaced apart relation to each other along the tank.

The pipes 8 are secured to the cradles 9 by a plurality of means constructed in accordance with my invention and each comprising a pair of members 12 preferably of the shape as shown in the drawings each of these members being in the form of a bar 13 which is preferably round with an end thereof bent to extend at an angle thereto, preferably a right angle, as represented at 14, and form a projection, the other end of the bar portion 13 being flattened to present the portion represented at 15 which is curved as shown to generally conform to the side of the pipe with which it is to engage, with its outer extremity straight and generally parallel with the bar 13, as represented at 16, in which a bolt-receiving opening 17 is provided. The securing means also comprise a bolt 18 which passes through the openings 17 in the members 12 and affords the means by which the outer ends of these members are drawn together to clamp the pipe, when the members 13 are assembled with the cradle 9 as hereinafter described.

Each cradle contains at opposite sides of each pipe 8 overlying it, a pair of relatively large openings 19 which are adapted to receive the inner projection-equipped rounded ends 14 of the members 13 and the manipulating of these members into a position in which the projections 14 overlap the undersides of the cradle members 10, as shown in Figs. 3 and 4, thereby affording an interlock between these members and the cradles preventing withdrawal of these members from the openings 19 yet permitting members 13 to rock therein. The members 13 so assembled with the cradles straddle the adjacent pipes as shown in the drawings, with their outer ends projecting beyond the pipes thus serving to straddle the pipes in which position they are drawn into close engagement with the pipes to hold the latter in place on the

cradle, by the bolts 18 inserted into the openings 17 and drawn tightly to place.

It will be understood from the foregoing that the securing means provided are not only of simple and economical construction but permit of the ready application thereof to securing position and require a single bolt only for each securing means. It will also be seen that due to the openings 19 being relatively large with respect to the rounded ends 14 of the clamping members, there is provided such a flexibility of assembly that the pipes 8 may freely expand and contract lengthwise due to temperature changes, and may move lengthwise under the surging action of the liquid contents of the tank, thereby greatly minimizing the stresses on the pipe connections, thus greatly reducing leakage of the heating medium. Furthermore, the use of bolts or nuts at those ends of the securing means which engage the cradle is obviated, with the manifest advantage, it being necessary in the releasing of the securing means, to free the pipe, that only the fastening device (the bolt 18 in the particular embodiment shown) be removed to free the parts of the securing means for release. This feature of the invention is of particular importance as the provision of bolts or nuts at the ends of the securing means where they engage the cradle, renders the removal thereof difficult and tedious particularly because of the inaccessibility of such parts.

While I have illustrated and described a particular construction embodying my invention, I do not wish to be understood as intending to limit it thereto as the same may be variously modified and altered without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is:

A rockable supporting clamp comprising a pair of metal rods having bent ends, a support having spaced openings therein of a size greater than that of said rods and adapted to loosely receive the bent ends of said rods so that said rods may rock slightly in a direction normal to the axis of said bent ends, and means engaging the opposite ends of said rods for drawing them together for the purposes set forth.

OSTRANDER J. PARKS.