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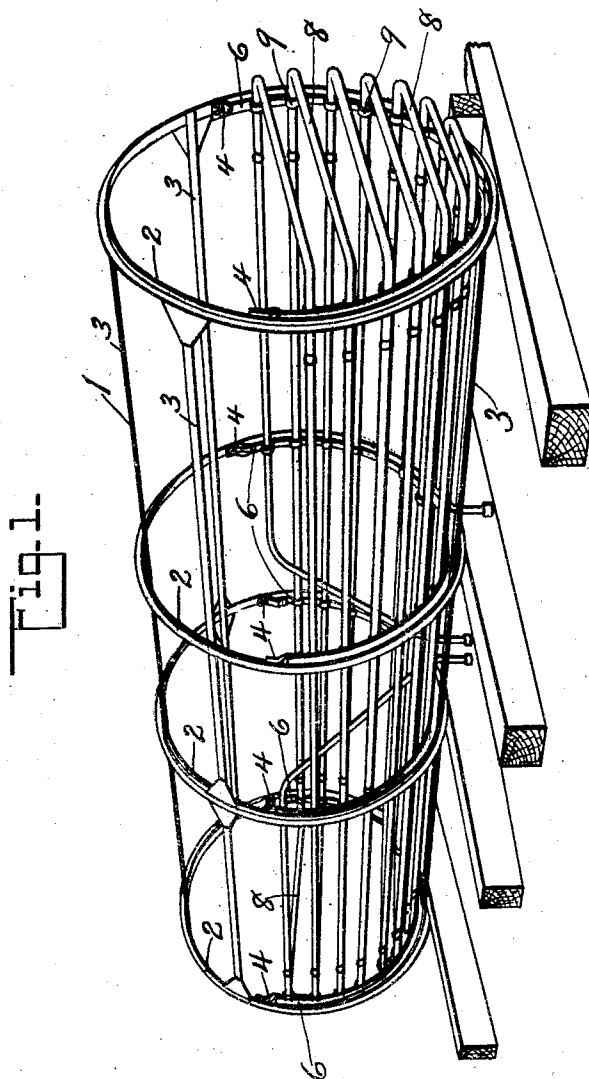
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L. F. RITTER

METHOD OF MAKING HEATING COILS FOR CAR TANKS

Filed Oct. 12, 1922

3 Sheets-Sheet 1



INVENTOR:

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BY *F. H. Gibbs*

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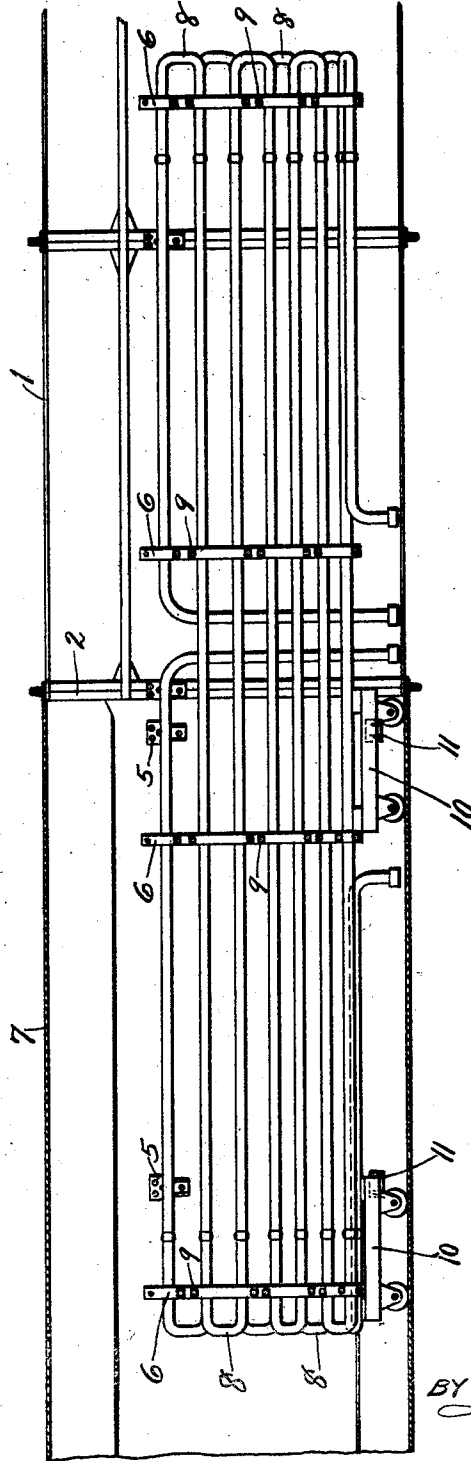
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3 Sheets-Sheet 2

Fig. 2.



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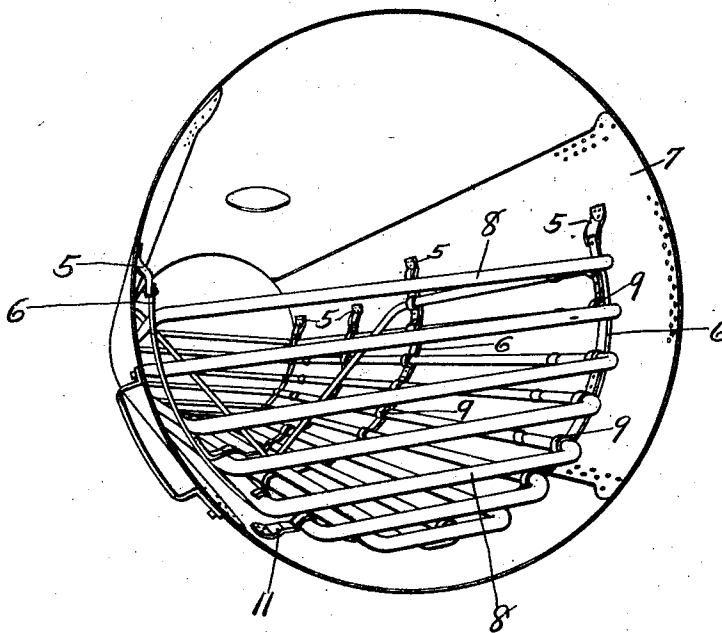
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3 Sheets-Sheet 3

Fig. 3.



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UNITED STATES PATENT OFFICE.

LEROY F. RITTER, OF MILTON, PENNSYLVANIA, ASSIGNOR TO AMERICAN CAR AND
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METHOD OF MAKING HEATING COILS FOR CAR TANKS.

Application filed October 12, 1922. Serial No. 594,218.

To all whom it may concern:

Be it known that I, LEROY FRANKLIN RITTER, residing at Milton, Northumberland County, State of Pennsylvania, and being a citizen of the United States, have invented certain new and useful Improvements in a Method of Making Heating Coils for Car Tanks, 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 within the scope of the claims will occur to persons skilled in the art.

In said drawings:

Fig. 1 is a perspective view showing the heating coils assembled in the skeleton cylinder used in carrying out this invention;

Fig. 2 is a central longitudinal vertical section taken through a tank cylinder and a skeleton cylinder showing the manner in which the heating coils are transferred from the skeleton cylinder to the tank cylinder; and

Fig. 3 is a perspective view showing the heating coils in position in the tank cylinder.

In constructing heating coils for use in railway car tanks, difficulty has been experienced in assembling the coils in a way that will insure tight joints between the sections of pipe which go to make up the coils, and it is essential that the joints between the pipe sections be made and kept absolutely tight. This invention is designed to provide a method for assembling the coils which will permit of the joints between the pipe sections being welded thereby insuring absolutely tight joints. It is also an object of this invention to provide a method of assembling the heating coils without the car tank that will permit of the coils being readily transferred to the tank.

In carrying out this invention there is provided a skeleton cylinder 1 comprising a plurality of rings 2 joined by spacing members 3, the interior diameter of the rings 2 being substantially that of the tank cylinder to which the coils are to be applied. Each of the rings 2 is provided with a plurality of brackets 4 corresponding in position to the

brackets 5 to which the supports 6 which carry the coils will be secured when the coils are placed in the tank cylinder 7. The rings 2 are positioned by the spacing members 3 so that the supports 6 will be properly spaced to engage with the brackets 5 in the tank cylinder 7. The supports 6 are secured to the brackets 4 on the rings 2 and the pipe lengths 8 of different lengths, which have previously been bent to the proper shape for their positions in the coils, are secured in position on the supports 6, by the use of pipe clamps 9. As the pipe sections 8 are secured in place the abutting ends of adjacent pipe sections are secured together in any suitable manner preferably by welding, either electrically or by a gas flame, so that the sections will be united to form a continuous length from the inlet to the outlet of each coil and extending along both sides and across the ends of the cylinder.

When a set of coils has been completely assembled in a skeleton cylinder 1, the skeleton cylinder is placed in line with a tank cylinder 7, with a ring 2 engaging an end of the cylinder 7, the supports 6 are loosened from the brackets 4 and the ends of the coils are raised upon trucks 10 so that the coils may be moved from the skeleton cylinder 1 into the tank cylinder 7. There is sufficient clearance between the supports 6 and the frame of the skeleton cylinder 1 as well as between the supports 6 and the sheets composing the tank cylinder 7 to permit of the slight elevation of the coils necessary to place them upon the trucks. The raising of the coils upon the trucks together with the springing of the ends of the coils will permit of the projecting inlet and outlet ends being entered into the tank cylinder 7 until they come opposite the openings provided for them in the bottom sheet of the tank cylinder 7. The ends are inserted in these openings, the trucks removed from beneath the coils and the coils lowered into place, the supports 6 engaging with the brackets 5 to which they are then secured in order to hold the coils in position in the tank cylinder. As a further means of securing the coils in position in the tank cylinder additional brackets 11 may connect supports 6 to the tank cylinder. With the coils secured in place in the cylinder 7, the usual tank ends (not shown) are secured to the ends of the cylinder.

What I claim is:

1. The method of constructing and installing heating coils for car tanks consisting of providing a cylindrical skeleton frame having an inner diameter corresponding to that of a tank cylinder, removably mounting coil supports in said frame, constructing a coil of connected pipe sections in the frame and securing pipes of the coil to the coil supports, removing the coil and supports from the frame as a unit and inserting the same into a tank cylinder, and securing the coil supports to the tank cylinder.

2. The method of constructing and installing heating coils for car tanks consisting of removably mounting coil supports in a skeleton frame having internal dimensions corresponding to those of a car tank, uniting pipe sections in coil forming formation in said frame and securing pipes of the coil to said coil supports, and bodily removing the coil and supports from the frame and projecting the same into a car tank and securing the coil supports to the car tank.

3. The method of constructing and installing heating coils for car tanks consisting of providing a cylindrical skeleton frame hav-

ing an inner diameter corresponding to that of a tank cylinder, removably mounting coil supports in said frame, constructing a coil of connected pipe sections in the frame and securing pipes of the coil to the coil supports, placing the frame in end to end relation to a tank cylinder and projecting the coil and support as a unit from the frame into the tank cylinder and securing the supports to the tank cylinder.

4. The method of constructing and installing heating coils for car tanks consisting of providing a cylindrical skeleton frame having inner dimensions corresponding to those of a car tank, removably mounting coil supports in the frame at the ends and at spaced points intermediate the length of the frame, constructing a coil of connected pipe sections in the frame and permanently securing pipes of the coil to the supports, removing the coil and supports from the frame as a unit, and inserting the unitary structure into a car tank.

In witness whereof I have hereunto set my hand.

LEROY F. RITTER.