

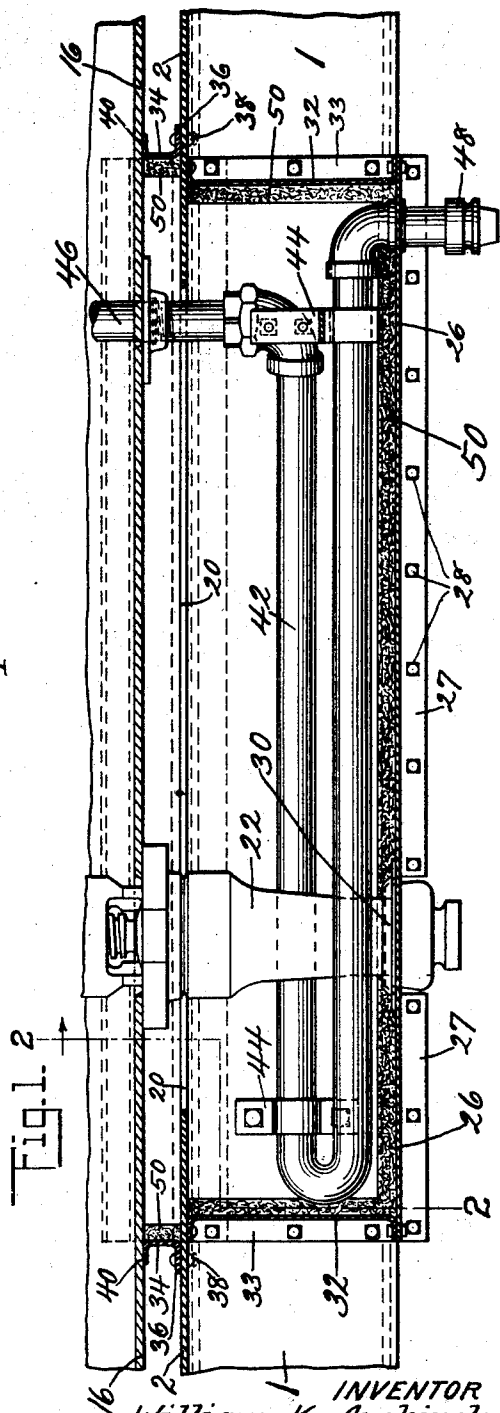
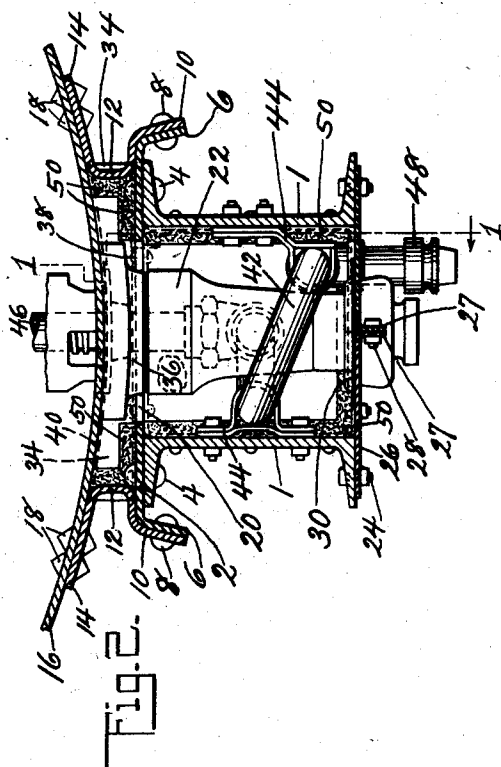
March 19, 1929.

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1,706,052

HEATING CHAMBER FOR DISCHARGE OUTLET CASINGS FOR TANK CARS

Filed May 2, 1928



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HEATING CHAMBER FOR DISCHARGE-OUTLET CASINGS FOR TANK CARS.

Application filed May 2, 1928. Serial No. 274,431.

This invention relates to tank cars, and more particularly to a means for heating the discharge outlet casings for tank cars, and it is an object of this invention to provide a heating chamber for the discharge outlet casing. It is also an object of this invention to provide a heating chamber for the discharge outlet casings of tank cars in which the usual members of tank car construction are utilized to form a part of the heating chamber.

In the drawings:

Fig. 1 is a partial vertical longitudinal section taken as on the line 1—1 of Fig. 2 at the discharge outlet of a tank car having a heating chamber for the discharge outlet casing in accordance with this invention; and

Fig. 2 is a vertical transverse section taken on the line 2—2 of Fig. 1.

In the drawings which show only a portion of the car adjacent the discharge outlet, the center sills 1 are connected by a top cover plate 2 secured to the sill top flanges by rivets 4. The top cover plate 2 projects beyond the sill flanges and is bent to form downwardly and outwardly projecting flanges 6 to which rivets 8 secure correspondingly shaped flanges 10 of tank anchors 12, the upper flanges 14 of which conform in shape to the tank bottom sheet 16 to which they are secured by rivets 18. The top cover plate 2 is provided with an opening 20 between the sills 1 through which extends a discharge outlet casing 22 which is secured to the tank bottom sheet between the tank anchors 12.

To the bottom flanges of the center sills 1, bolts 24 secure flanged plates 26 which have their flanges 27 abutting midway between the sills and secured together by bolts 28. The plates 26 are cut away to provide a circular opening which receives the discharge outlet casing 22 and the edges of the plates at the opening are reinforced by the half portions of a split collar 30 spot welded to the plates 26. The collar 30 also serves to insure a close fit about the discharge outlet casing 22. Between the sills 1 at the ends of the plates 26, are placed plates 32 which close the openings between the sills 1, top plate 2 and plates 26 and are provided with outwardly projecting flanges 33 through which are inserted the bolts and rivets which secure the plates 32 to the sills

1 and plates 2 and 26. At the ends of the tank anchors 12 are placed channel pressed filler plates 34 which extend across the top cover plate 2 from one tank anchor 12 to the other and have straight bottom flanges 36 which rest upon and are secured to the top cover plate 2 by rivets 38 and curved top flanges 40 which conform to the shape of and bear against the tank bottom sheet 16. The plates 26, 32 and 34 close the openings between the sills 1, tank anchors 12 and tank bottom sheet 16 and with them form a chamber surrounding the discharge outlet casing 22, and the portion of the chamber between the sills 1 is in communication through the opening 20 in the top cover plate 2 with the portion of the chamber between the sills 1 and tank bottom sheet 16.

To provide heat for the chamber, a heating coil 42 of substantially U-shape is mounted in brackets 44 carried by the sills 1 and extends on opposite sides of the discharge outlet casing 22. One end of the coil 42 is connected by a lead 46 through the tank bottom sheet 16 to the usual tank heating coils (not shown) while the other end of the coil 42 is led out through an opening in a plate 26 and closed by a cap 48 when not in service.

The parts forming the outside of the chamber may, with the exception of the tank bottom sheet 16, be covered with heat insulating material as at 50, forming an inner lining for the chamber to prevent loss of heat, but the tank bottom sheet is not covered as the heat acting upon it is effective in raising the temperature of the tank contents.

While the above describes the preferred form of the invention, 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.

What is claimed is:

1. The combination in a tank car, of center sills, a tank, tank anchors securing said tank to said sills, a discharge outlet for said tank extending between said anchors and sills, means cooperating with said sills, tank and tank anchors to form a chamber enclosing said discharge outlet and a heating coil in said chamber.
2. The combination in a tank car, of

center sills, a tank, tank anchors securing said tank to said sills, a discharge outlet for said tank extending between said anchors and sills, means closing the openings 5 between said sills and between said tank anchors and forming a chamber therewith surrounding said discharge outlet and a heating coil in said chamber.

3. The combination in a tank car, of 10 center sills, a tank, tank anchors securing said tank to said sills, a discharge outlet for said tank extending between said anchors and sills, plates secured to said sills and forming with said sills and tank anchors 15 a chamber surrounding said outlet and a heating coil in said chamber.

4. The combination in a tank car, of spaced center sills, a tank, tank anchors securing said tank to said sills, a discharge 20 outlet for said tank extending between said anchors and sills, plates extending between and secured to said sills and forming with said sills, tank and tank anchors a closed chamber surrounding said outlet and a heating coil in said chamber. 25

5. The combination in a tank car, of

spaced center sills, a tank, tank anchors securing said tank to said sills, a discharge outlet extending between said anchors and sills, plates closing the openings between 30 said sills and between said tank and tank anchors and sills and forming with said sills, tank and tank anchor a closed chamber surrounding said discharge outlet and a heating coil in said chamber. 35

6. The combination in a tank car, of spaced center sills, a tank, tank anchors securing said tank to said sills, a discharge outlet for said tank extending between said anchors and sills, plates connecting said sill 40 top and bottom flanges, plates mounted between said sills and secured to said first mentioned plates and sills, filler plates conforming to the tank shape and extending between said tank anchors and secured to 45 said sill top plates, said plates forming with said sills, tank and tank anchors a closed chamber surrounding said discharge outlet and a heating coil in said chamber.

In witness whereof I have hereunto set 50 my hand.

WILLIAM K. AUCHINCLOSS.