May 26, 1931. G. V. TONTET 1,807,108

TANK FOR THE TRANSPORTATION OF VOLATILE LIQUIDS

Filed June 20, 1929

Fig. 2.

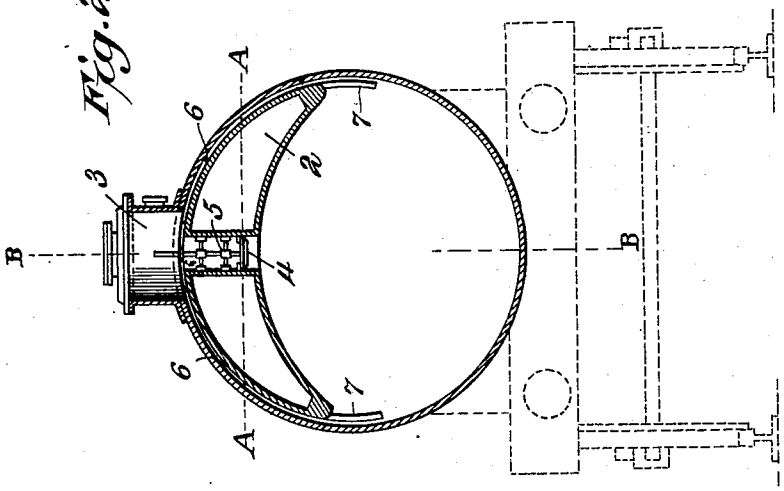
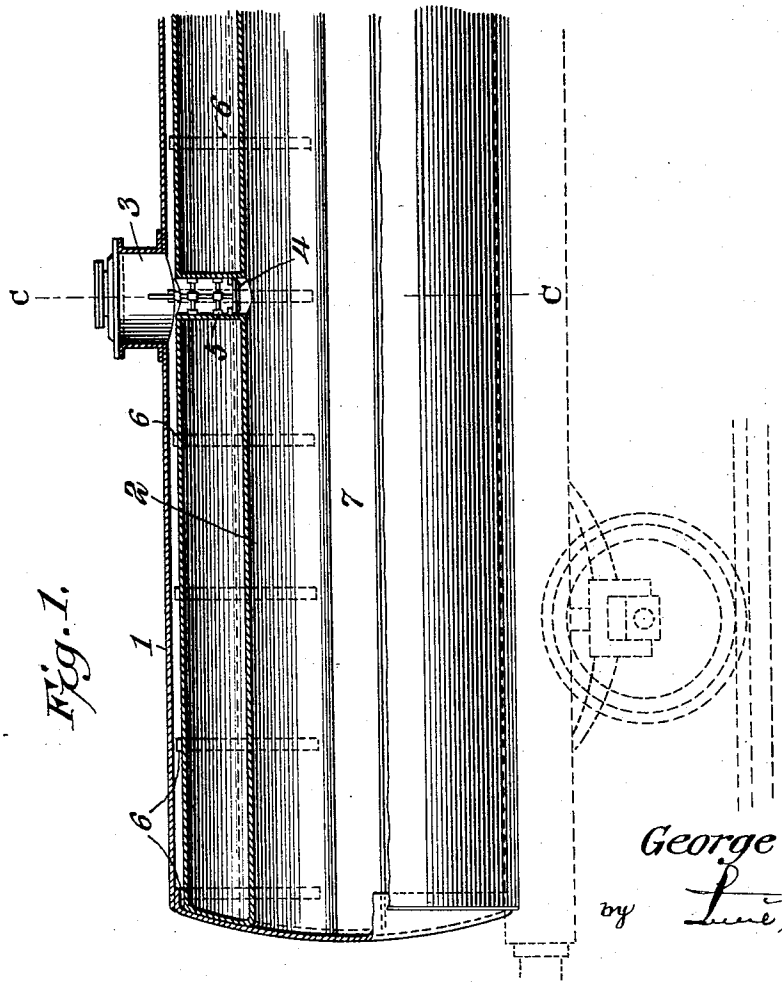


Fig. 1.



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UNITED STATES PATENT OFFICE

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TANK FOR THE TRANSPORTATION OF VOLATILE LIQUIDS

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The present invention relates to improvements in tanks and the like for the transportation of volatile liquids such as naphtha and similar liquids and has for its object the improved means in the aforementioned tank for the purpose of reducing to a minimum the losses caused by evaporation of the said products whether the tanks are stationary or in motion.

The invention relates particularly to tanks destined to be installed in or mounted on railway cars, lorries, aircraft or any other transport, such as tanks in tank-ships, lighters, etc.

In order that the present invention may be clearly understood and put into practice without difficulty it is illustrated in the accompanying drawings in which.

Figure 1 is a longitudinal elevation partly in section of the tank adapted to a railway car, the section being taken on line B—B of Fig. 2.

Fig. 2 is a cross section of the tank taken on line C—C of Fig. 1.

Throughout the drawings the same reference numbers indicate the same or corresponding parts.

In the form of the construction represented the invention is constituted by a cylindrical tank 1 of circular section and arranged horizontally, in which is provided a large receptacle 2 hermetically sealed and constructed of any suitable metal. The top surface of the receptacle has, in the form represented, a curvature substantially coinciding with or equal to that of the tank and having its extreme ends joined to the extreme ends of the tank. The arrangement thereof is such as to leave very little clearance or space between it and the tank, that is to say between the lateral sides of the receptacle and the tank, thus allowing for the contraction and expansion of the liquid in the tank.

The receptacle 2 has in its centre an opening 3 which coincides with the filling hatch of the tank inside of which is provided the valve 4 that is closed from the top. The valve spindle of the valve rotates in the guides 5.

As clearly shown in Fig. 1 of the drawings, there will be provided a series of side ribs or baffle plates 6 in the space or clearance between the tank and the hollow receptacle 2.

The hollow receptacle, if it is desired, may have its lateral sides prolonged towards the bottom to any desired distance as indicated by 7. The lateral sides may even be joined together at the bottom but provided with a hole of suitable diameter at the bottom of its centre, and having the extreme ends joined as aforementioned to the extreme ends of the tank.

It will be understood that the petrol or similar product on being introduced into the tank through the filling hatch 3 (the valve 4 having been opened) will fill the inside of the tank to the level A—A of Fig. 2 and thereafter the valve will be closed. In this manner closing the point of entry of the liquid and keeping the liquid from the top by the hollow receptacle, forms a continuous mass. The hollow receptacle could also be formed by means of a metal plate but for constructional and other reasons it is preferable to use the one shown. Now, as the evaporation of the liquid is proportional to the exposed liquid, and since the valve 4 is closed with the liquid filling the inside, the only exposed free surface of the liquid will be in the small lateral clearance or space between the receptacle 2 and the tank 1, that is to say the minimum surface and the evaporation therefore will be proportional and of small consequence, as can be clearly understood.

The parts, ribs, baffle plates or the like 6 are for the purpose of reducing the movement of the liquid and consequent evaporation caused thereby during conveyance.

The invention has been described with reference to a railway tank car and is also represented in the drawings, but it is evident that the same principles may be applied with the necessary constructional variation or modifications in tank-ships, lorries, and any other vehicle destined for the transport of volatile liquids with identical results.

The functioning of the aforementioned is

clearly evident and perfectly clear to anyone with knowledge of such constructions.

It is evident that various constructional modifications and details can be introduced without departing in any way from the sphere of the present invention, which has already been clearly described for the purposes specified.

Having now particularly described and determined the nature of my invention and the manner in which it has to be put into practice I declare that what I claim as my invention and my exclusive property is:

1. In a cylindrical tank for the transportation of liquids, a hollow receptacle having a crescent-shaped cross-section arranged at the top of the tank and fitting conformably therein; and a series of baffle plates fixed in spaced relation on the outside of the receptacle adjacent the tank to check the liquid in the tank, said receptacle preventing the loss of the liquid by evaporation.

2. In a cylindrical tank for the transportation of liquids, a receptacle having a crescent-shaped cross-section and arranged at the top of the tank and fitting conformably with a slight clearance, said receptacle being adapted to prevent the loss of the liquid from the tank by evaporation.

In testimony whereof I affix my signature.

GEORGE VINCENT TONTET.