R. PIAGGIO.

TANK BRACE.

APPLICATION FILED MAY 13, 1912.

1,123,366.

Patented Jan. 5, 1915.

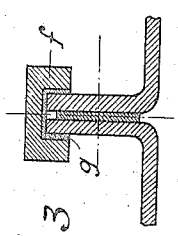


Fig. 3

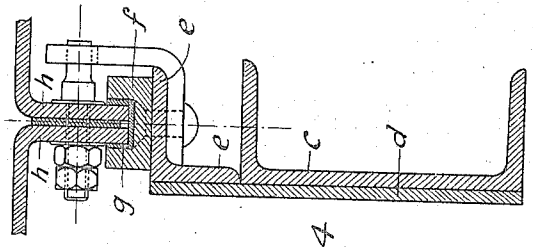


Fig. 4

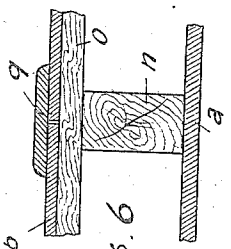


Fig. 6

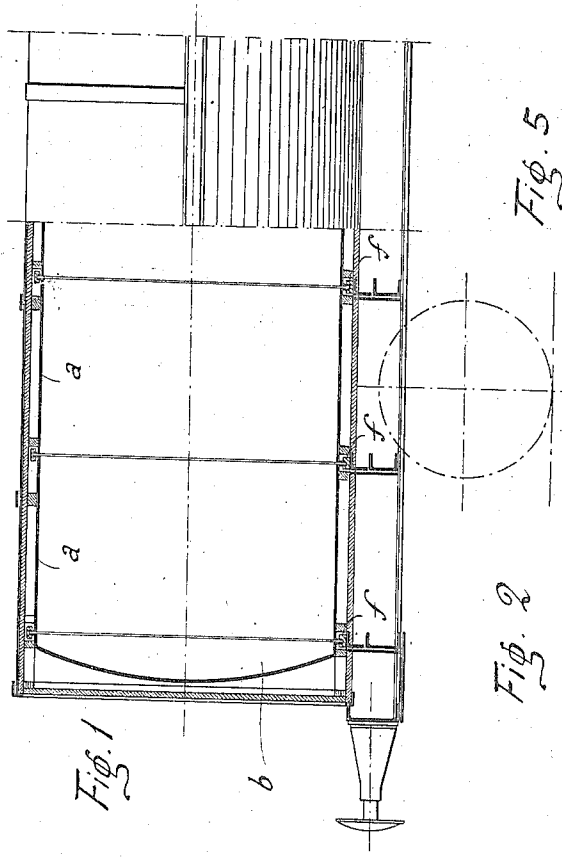


Fig. 1

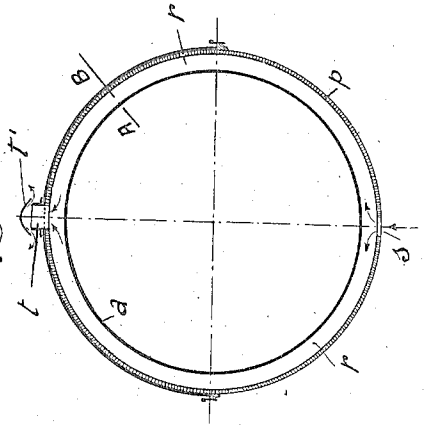


Fig. 5

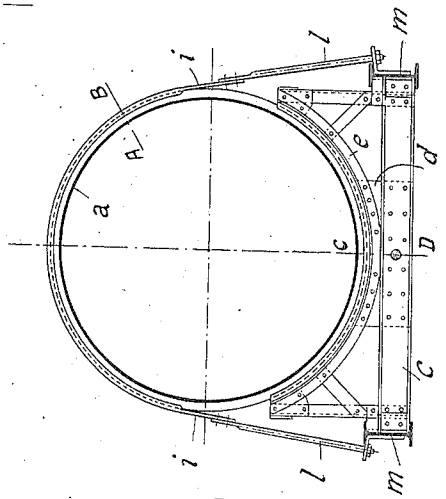


Fig. 2

Witnesses:

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UNITED STATES PATENT OFFICE.

RINALDO PIAGGIO, OF GENOA, ITALY.

TANK-BRACE.

1,123,366. Specification of Letters Patent. Patented Jan. 5, 1915.

Application filed May 13, 1912. Serial No. 697,032.

To all whom it may concern:

Be it known that I, RINALDO PIAGGIO, engineer, subject of the King of Italy, residing at Genoa, Italy, have invented certain new and useful Improvements in Tank-Braces, of which the following is a specification.

The present invention relates to improvements in tank braces especially intended for use with enamel or glass coated sectional tanks for the transport of liquid or other fluids on the platforms of railroad cars or the like.

It is the object of the present invention to provide a brace securing the tank against longitudinal as well as lateral displacement by means of suitable bands of preferably U-shaped cross section provided with an elastic lining and a suitably lined and shaped support.

The nature of my invention will be best understood as described in connection with the accompanying drawing, in which:—

Figure 1 shows an elevation of a portion of the tank with the bracing elements in section. Fig. 2 is an end view illustrating the manner of securing the tank to the end section sill of a car. Fig. 3 is a section view taken on the line A—B of Fig. 2; Fig. 4 is a section view taken on the line C—D of Fig. 2. Fig. 5 is a cross-section through the tank showing the air-chamber, Fig. 6 is a section view taken on the line A—B of Fig. 5.

In order to allow a filling of the tank in turn with liquids possessing different antagonistic properties and to prevent the contamination of a subsequent liquid by traces of the preceding one, the inner wall of the tank is enameled and thus rendered perfectly smooth so as to be easily cleaned. In order to allow of a complete enameling the tank is suitably made up of cylindrical parts (*a*) (*a*), and the end parts or sections are closed at their outer ends by two calottes (*b*) and connected by air-proof joints leaving the enamel surface smooth throughout the tank.

As the tank cannot be fitted to the car in the ordinary way, as the riveting while being built and the shaking while being operated would injure the enamel, special arrangements must be devised for this purpose.

On the frame of the car (*c*) there are fitted by means of plates (*d*) angle-iron supporting pieces (*e*) of a segmental shape, on the horizontal flange *e'* of which there is fixed a bent iron piece (*f*) or the like, supporting by means of an elastic bearing (*g*) flanges (*h*) connected with the joints. The supporting bent piece (*f*) runs through about half the circumference; a similar piece, also supported by the elastic bearing (*g*), surrounds the upper half of the joint flanges as metal belts connected through screw-bars (*l*) to angle-irons (*m*) rigidly attached to the side-car frame-plates.

To protect the tank against either the action of the sun rays, whereby the inner temperature might be inconveniently raised or the action of cold it is covered outside with a wooden-frame (*n*), a wooden covering (*o*), inclosing an air-insulating space all around the tank; moreover, the upper semi-cylindrical portion of the tank, which is more exposed to the sun rays, is covered outside the wood covering with a logging (*p*) made up of asbestos or such other similar substance; this can be applied in sheets connected by means of strap-joints (*q*) or otherwise. The logging might be applied to the entire outer surface of the tank.

The air-space (*r*) inclosed between the tank-wall (*a*) and the lining (*o*) is available as ventilation chamber; and to this end there are provided in the lower part of the lining (*o*), one or more air-inlets (*s*) and one or more air-outlets (*t*) in its upper part, suitably protected by a cover (*t'*); the draft is kept up while the car is running by its speed and when at rest by suitable arrangements.

Claims:

1. Means for securing sectional tanks provided with external flanges upon the platforms of railroad cars, comprising supports of U-shaped cross section for the reception of the flanges of the tank sections, securing the outer ends of the tank to the platform against longitudinal displacement, an elastic lining for said supports, and brace bands for elastically securing the tank against lateral displacement upon a platform, substantially as described.

2. Means for securing sectional tanks provided with external flanges upon the platforms of railroad cars, comprising supports of U-shaped cross section for the reception of the flanges of the tank sections, an elastic lining for said supports, angle plates secured to the car and riveted to said supports, the latter being braced against the

same, and means for elastically securing the tank against lateral displacement upon the platform, substantially as described.

3. Means for securing sectional tanks provided with external flanges upon the platforms of railroad cars, comprising supports of U-shaped cross section for the reception of the flanges of the tank sections, an elastic lining for said supports, angle plates secured to the car and the latter to said supports, braced against the same, and brace bands of U-shaped cross section encircling the upper half of the tank, angle irons secured to the sides of the side rails of said platform, and screw bars engaging the lower ends of said brace bands for adjustably securing said lower ends to said angle irons, substantially as described.

In testimony whereof I affix signature in presence of two witnesses.

RINALDO PIAGGIO.

Witnesses:

PIO RUNWINIS,

C. A. FERRARI.