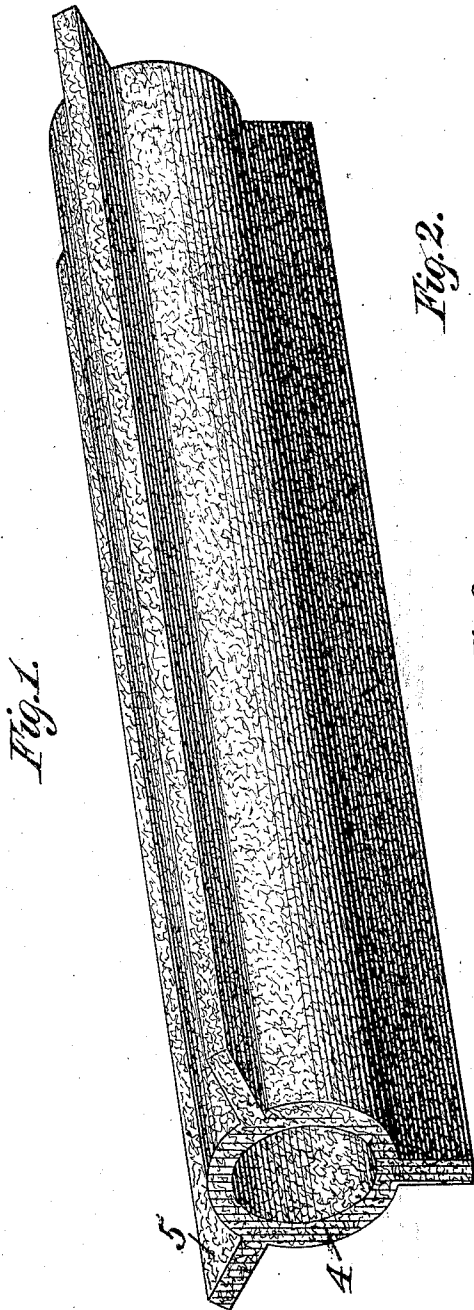


H. WATSON.  
 GAS TANK.  
 APPLICATION FILED SEPT. 22, 1909.

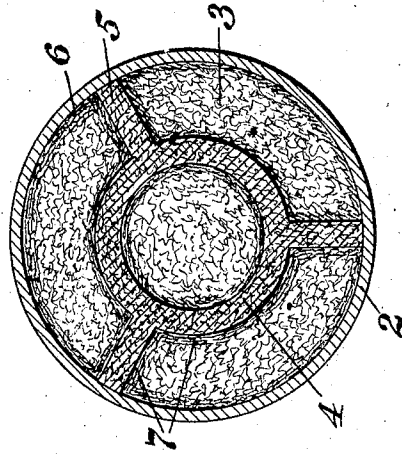
966,968.

Patented Aug. 9, 1910.

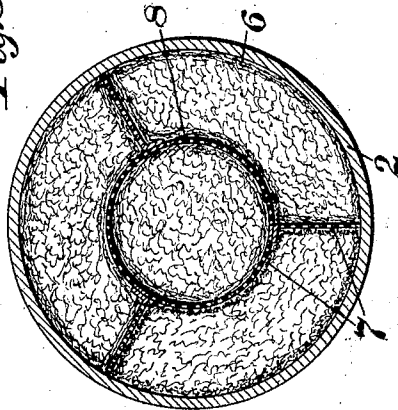


*Fig. 1.*

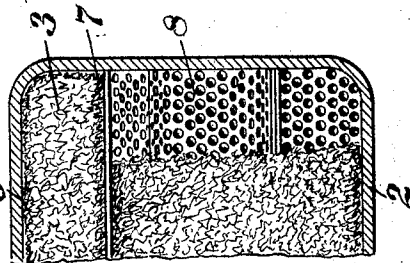
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

HERBERT WATSON, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO SEARCHLIGHT GAS COMPANY, OF WARREN, OHIO, A CORPORATION OF OHIO.

GAS-TANK.

966,968.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed September 22, 1909. Serial No. 519,058.

To all whom it may concern:

Be it known that I, HERBERT WATSON, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Tanks, of which the following is a specification.

The purpose of a porous filling for acetylene gas tanks is well known in the art. This filling is commonly embodied in formed asbestos fiber disks designed to fit closely within the cylindrical tank. These disks are not solid or rigid clear through, there being simply a crust formed on their surfaces to hold them in the desired shape, so that no positive support is provided for the fiber forming the inner or central portions of the disks. This material is liable to loosen up, shift, or separate and form voids or pockets of such size as to become dangerous, it being well recognized that even a small quantity of gas collecting in a pocket or space unobstructed by the threads or fiber of the filling material is liable to set up such disintegration of the elements as to produce a destructive explosion. The tendency to form these objectionable pockets or spaces is especially great in tanks used on automobiles, the constant motion and not infrequent jarring and jolting tending to cause the filling to settle or separate and produce the objectionable spaces. A further source of danger is the denting or battering of the tanks. An indentation will form a like depression in the filling, and if the indented metal springs back a space or pocket remains in the filling.

The object of the present invention is to so support or sustain the filling as to render its separation or settling and the formation of spaces or voids quite impossible.

A further object is to guard against the formation of such spaces resulting from indenting the tank by causing the filling to adhere to its inner surface, so that if a dent occurs and the metal springs back, the filling will come back with it and no void will result.

The filling support consists preferably of a hollow body formed of such material or so constructed as to permit the solvent fluid to circulate therethrough, the body being of such irregular shape as to engage and be held by the walls of the tank, and at the same time provide spaces outside of body as well

as therein for confining porous filling material. And the latter is preferably cemented to all surfaces of the support as well as to the interior of the tank, thereby fully sustaining it from all directions and preventing displacement.

In the accompanying drawings, Figure 1 is a perspective of a filling support constructed in accordance with the invention, and Fig. 2 is a cross section of a tank showing the support of Fig. 1 therein and with the several spaces defined thereby filled with porous material. Fig. 3 is a view similar to Fig. 2, illustrating a support of modified form, and Fig. 4 is a detail of the modification of Fig. 3.

Referring to the drawings, 2 designates a cylindrical gas tank of usual construction, and 3 is porous material packed therein. This filling may consist of asbestos fiber, or asbestos mixed with cotton, or any other material that will provide the requisite compact porous mass, permitting free circulation of the gas-carrying solvent.

The filling support may be variously constructed to so hold up or sustain the packed material as to prevent it from settling, separating or dividing and forming pockets or voids, and at the same time not interfere with the free circulation of the solvent. A desirable embodiment provides for bridging or bracing the support against the walls of the cylinder in such manner as to hold it rigid.

In the adaptation shown in Figs. 1 and 2, the support is constructed of stiffened or formed asbestos or asbestos board, and consists of a cylindrical or hollow body-portion 4, from which project the longitudinal blade-like extensions or wings 5, preferably disposed radially, as shown, and of a size to closely fit within the cylinder or tank 2. This formation provides spaces on the exterior of body 4 between adjacent wings 5, and these spaces, as well as the interior of body 4, are packed with the fibrous filling, and the body being formed of asbestos, the solvent may circulate therethrough as well as through the filling.

The loose filling is cemented to the inner surfaces of the tank, as indicated at 6, and also to all surfaces of the support, as shown at 7, thus still further fixing and holding the filling throughout the entire space of the tank. And with the filling thus cemented if

the cylinder is dented and the metal springs back, the filling follows the metal at such time. Without this adherence such indentation of the shell would similarly indent the filling, particularly with the latter of formed construction as heretofore, thus producing a space or void, with the resulting danger of explosion heretofore referred to. Sodium silicate or other suitable cementing liquid may be used.

Instead of forming the support of porous material it may be constructed of perforated sheet metal, as indicated at 8, Figs. 3 and 4, the perforations permitting free circulation of the solvent and at the same time positively supporting the filling. From the foregoing it will be seen that the support may be constructed of various materials. And while the preferred shape is here shown, the invention is not limited thereto.

The supports may be dealt in as an article of manufacture separately from the tanks in which they are placed, as will be understood.

I claim:

1. The combination of a gas tank, porous material filling the tank, and means through which liquid may circulate supporting the material throughout the tank against transverse displacement.

2. The combination of a gas tank, porous material filling the tank, and supporting means through which liquid may circulate extending longitudinally of the tank and holding the material against transverse displacement.

3. A gas tank, and porous material filling the tank and secured to the inner surface thereof.

4. The combination of a gas tank, filling supporting means, and a porous filling secured to the supporting means.

5. The combination of a gas tank, filling supporting means, and a porous filling secured to the inner surface of the tank and to the supporting means.

6. The combination of a gas tank, a filling support constructed to permit fluid to circulate therethrough, the support consisting of a hollow body with extensions thereon engaging the inner surface of the tank, and porous filling in the spaces inside and outside the support.

7. As an article of manufacture, a filling support for gas tanks consisting of a hollow body formed of porous material and having side projections for the purpose described.

8. As an article of manufacture, a filling support for gas tanks consisting of a body having a hollow central portion and side projections.

9. As an article of manufacture, a filling support for gas tanks consisting of a body having a hollow central portion and side projections disposed longitudinally thereof.

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

HERBERT WATSON.

Witnesses:

JOHN S. SNYDER,  
A. E. WONDERS.