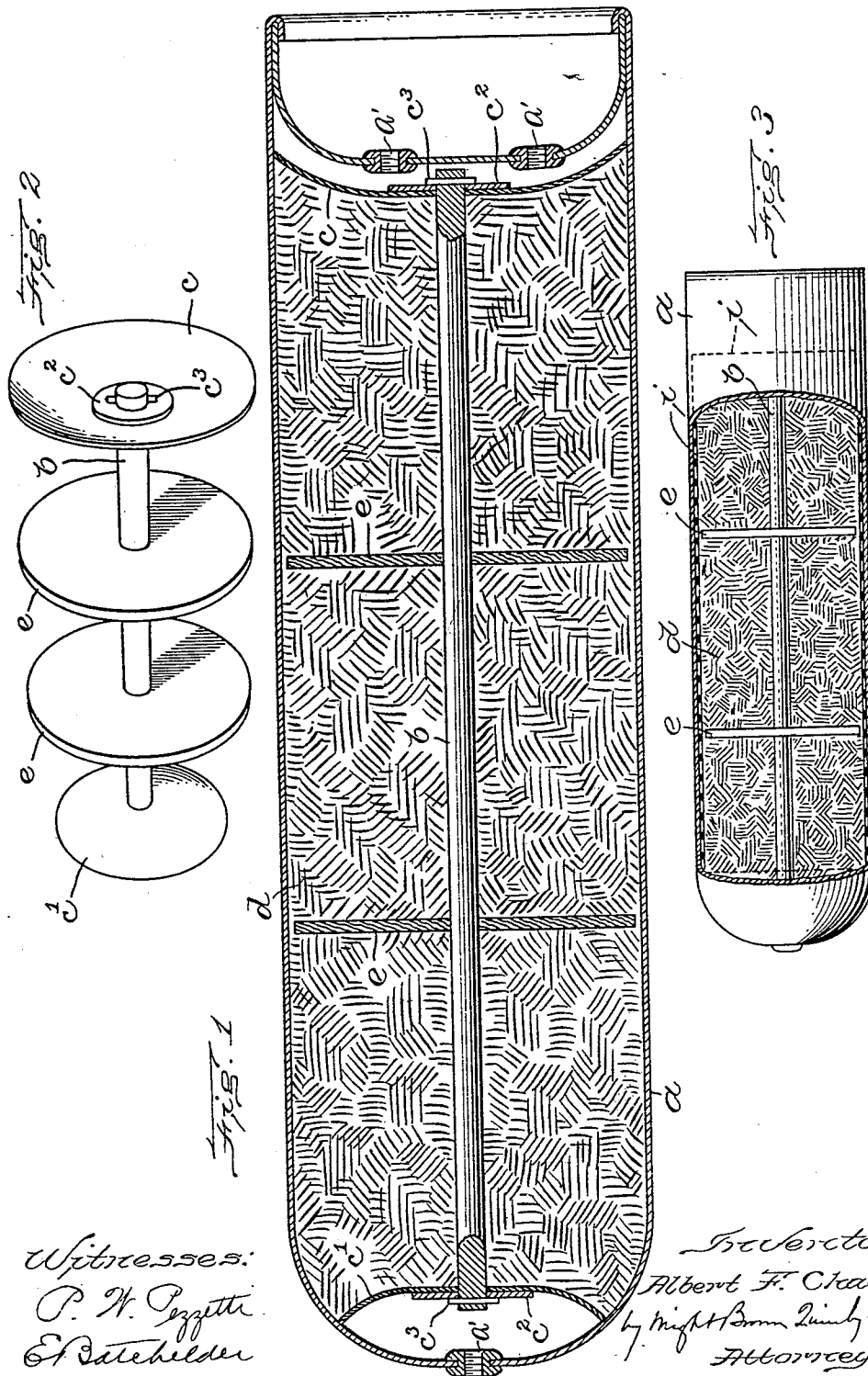


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PATENTED AUG. 20, 1907.

A. F. CHACE.
PORTABLE GAS TANK.
APPLICATION FILED OCT. 8, 1906.



Witnesses:
P. W. Pezzetti
Et Notar

In Witness
Albert F. Chace
by *Wm. L. May*
Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT F. CHACE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO EMMA L. CHACE, OF BOSTON, MASSACHUSETTS.

PORTABLE GAS-TANK.

No. 863,783.

Specification of Letters Patent.

Patented Aug. 20, 1907.

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To all whom it may concern:

Be it known that I, ALBERT F. CHACE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in 5 Portable Gas-Tanks, of which the following is a specification.

This invention relates to portable tanks used for such purposes as supplying acetylene gas to head lights of automobiles, and other structures, the tank being provided with a filling of absorbent or divided material 10 adapted to contain a charge of the liquid known as acetone, the said filling being intended to hold the acetone liquid, and prevent it from being agitated by the movements of the tank.

15 The invention has for its object to provide improved means for confining the liquid-holding filling in such manner that it may be conveniently inserted in the tank, and confined therein so as to be free from liability of being reduced to powder, the material usually employed being of a more or less brittle and friable nature, 20 such as asbestos fiber, mineral wool, etc. When a body of such material is placed in the tank, and is supported only by the walls of the tank, it is liable to disintegrate, portions of it being converted into powder, which is 25 liable to clog the inlet and outlet pipes. Moreover the insertion of the filling in the tank is attended with considerable inconvenience. My invention obviates these objections, and consists in the improvements which I will now proceed to describe and claim.

30 Of the accompanying drawings, forming a part of this specification,—Figure 1 represents a longitudinal section of a portable gas tank embodying my invention. Fig. 2 represents a perspective view of the filling-holding frame or skeleton, hereinafter described removed 35 from the filling. Fig. 3 represents a sectional view showing a somewhat different embodiment of my invention.

The same letters of reference indicate the same parts in all the figures.

40 In the drawings, *a* represents a metal tank of any suitable construction, adapted to sustain the internal gas pressure required in tanks which supply automobile and other burners, the tank being provided with suitable pipe couplings *a'* adapted for connection with 45 a supply pipe, through which the tank is charged, and with one or more outlet pipes which conduct gas to the burners. In practice a tank of this character is provided with a filling of liquid-holding material, such as asbestos fiber or mineral wool, adapted to hold a body 50 of acetone, and prevent the latter from following the natural tendency of free liquid to move about independently of the tank when the latter is in motion.

Heretofore the filling has been inserted in a single continuous mass, having no support excepting that afforded by the walls of the tank.

In carrying out my invention I provide a supporting frame or skeleton, adapted to be inserted in the tank, and to additionally support the liquid-holding filling in such manner as to prevent or greatly minimize the liability of the disintegration of the filling 60 without materially decreasing the holding capacity of the tank. The supporting skeleton, as shown in this embodiment of my invention, comprises a central rod or bar *b*, extending longitudinally of the tank and being somewhat shorter than the latter, and end 65 pieces or heads *c c'* engaged with the end portions of the bar *b*, and made of such diameter that their outer margins bear upon the inner surface of the tank. The heads *c c'* are composed of flexible material, such as asbestos board, preferably reinforced at their central portions by metal disks or washers *c²*, which are 70 held in place on the bar *b* by means of cotter pins *c³* or otherwise. When the filling material *d* of asbestos fiber or mineral wool is packed around the rod *b* and between the heads *c c'*, the marginal portions of the 75 latter will be somewhat sprung or bulged outwardly, as shown in Fig. 1. The heads *c c'* are of such size that their margins bear closely against the interior of the tank, and prevent the passage of any of the filling material which may have been reduced to powder, 80 into the spaces between the heads *c c'* and the end portions of the tank which contain the various openings provided therein for the admission of acetone, the outlet of gas and the pressure gage. The diameter of the head *c* is preferably somewhat greater than 85 the inside diameter of the tank, to insure close contact between its margin and the tank. The diameter of the head *c'* is preferably somewhat less than the internal diameter of the tank, to enable it to be freely inserted in the tank, and come to a bearing on the crowning 90 inner end of the tank. While the heads *c c'* fit the tank closely enough to prevent powdered filling material from passing to the end openings in the tank, they permit a sufficient passage of acetone the latter finding its way through the crevices which exist 95 between the heads *c c'* and the inner surface of the tank, and between said heads and the rod *b*. The material of the heads may, if desired, be sufficiently porous to permit the acetone to filter through the heads. The said frame or skeleton may include one 100 or more intermediate heads *e e*, which may also be of asbestos board, and are preferably thicker and stiffer than the heads *c*. The heads *e e* subdivide the space between the heads *c c'*, and correspondingly subdi-

vide the liquid-holding filling *d*, the latter being here shown as subdivided into three annular sections, each surrounding the rod *b*.

In Fig. 3 I show a cylindrical sleeve *i* surrounding the filling material, and adapted to protect the same during transportation, the said sleeve being of smaller diameter than the interior of the tank. The sleeve *i* may be of sheet metal, perforated if desired, or it may be of woven wire or other suitable material.

10 I have found that the supporting frame or skeleton above described, greatly preserves the durability of the liquid-holding material, facilitates its insertion in the tank, and prevents powdered filling material from finding its way to the end openings in the tank. The supporting skeleton when provided with a wrapper such as the sleeve *i* also enables the liquid-holding filling to be transported independently of the tank.

I claim:

20 1. A portable gas tank provided with suitable pipe couplings and with a liquid-holding filler and an internal supporting skeleton supported by the tank, and engaging the filler.

2. A portable gas tank provided internally with a filler-supporting skeleton composed of a longitudinal bar and flexible heads engaged therewith, the said heads bearing on the interior of the tank, and liquid-holding material surrounding the bar between the heads.

3. A portable gas tank provided with suitable pipe couplings and also provided internally with a filler-holding skeleton composed of a central rod, end pieces or heads engaged with the end portions of the rod, and bearing on the interior of the tank, and one or more intermediate pieces or heads engaged with the rod, and filling material surrounding the rod and subdivided by said end and intermediate pieces into independent sections.

4. A portable gas tank provided internally with a filler-supporting skeleton comprising flexible heads, a longitudinal bar connecting the heads, liquid-holding material surrounding the bar between the heads, and a sleeve surrounding said material and of smaller diameter than the tank.

In testimony whereof I have affixed my signature, in presence of two witnesses.

ALBERT F. CHACE.

Witnesses:

C. F. BROWN,
E. BATCHELDER.