

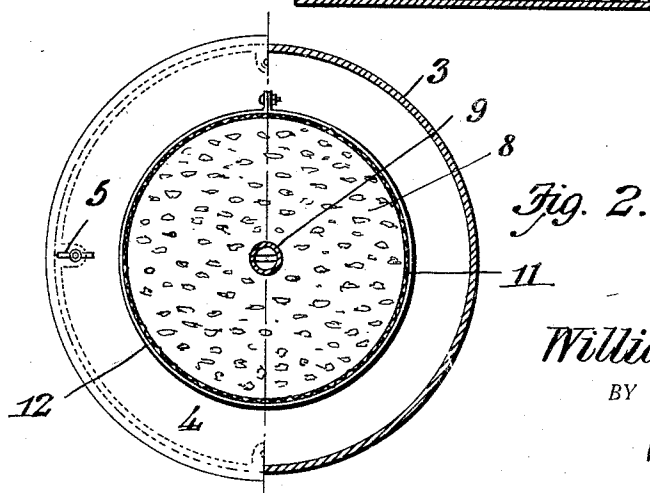
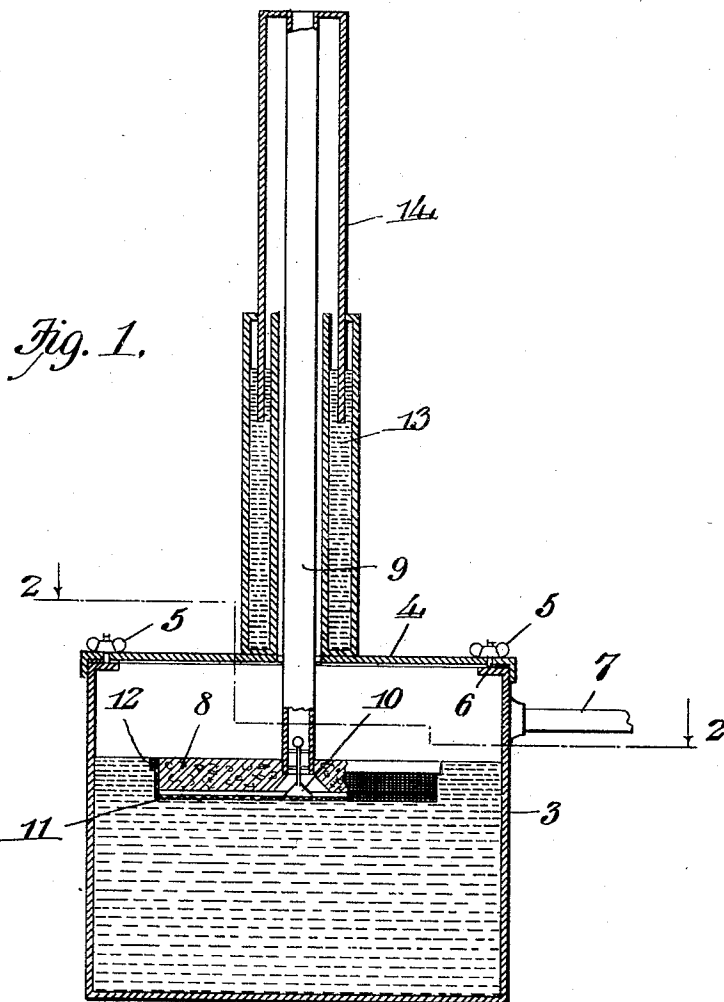
Dec. 15, 1931.

W. T. PAGE

1,836,868

VAPORIZER

Filed Dec. 26, 1928



INVENTOR.  
*William T. Page,*

BY

*Amogh B. Gan*  
ATTORNEY.

## UNITED STATES PATENT OFFICE

WILLIAM T. PAGE, OF EDMONSTON, MARYLAND

## VAPORIZER

Application filed December 26, 1928. Serial No. 328,463.

This invention relates to vaporizers, and particularly to vaporizers to be used in extracting gases from mineral oils or gasoline.

The primary object of the invention is to provide a vaporizer of simple and inexpensive structure capable of being used effectively in the production of gas from fuel oils such as gasoline, and whereby all danger of gas leakages is obviated and clogging of the mechanism is rendered impossible.

A further object of the invention is to provide means of simplified character whereby liquid globules in the oil or fluid from which the gas is extracted are effectively broken up and atomized whereby to produce more and a better quality of combustible gases.

A still further object is to provide a vaporizer characterized by such construction as to render it unnecessary to open or detach any of the parts thereof for the introduction of a new supply of fuel oil.

With these objects in view, together with others which will appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts all as will be described more fully hereinafter illustrated in the drawings and particularly pointed out in the claims.

Fig. 1 is a vertical sectional view taken through a vaporizer constructed in accordance with the invention, and

Fig. 2 is a transverse sectional view taken substantially upon line 2—2 of Fig. 1.

A vaporizer of my improved construction is adapted particularly for use in connection with comparatively small gas generating plants, such as are used in rural districts or communities for the generation of illuminating gas on a comparatively small scale. Associated with such a plant is vaporizing mechanism with which gasoline is used and the combustible fumes therefrom are stored in a suitable tank or container, not shown, and from which they are drawn to proper or desired points for consumption.

The vaporizer of my invention includes a tank 3 which may be of any desired size and shape, and which may or may not be buried beneath the ground. This tank may be formed of sheet metal, and is provided with

a top or cover 4 detachably secured upon the upper end of the tank by wing nuts 5 carried by the upstanding studs 6 secured to the tank body. A pipe or lead 7 communicates with one side of the tank near the upper end thereof, and through which the gas passes to a suitable storage receptacle.

A float 8 is arranged within the tank and floats upon the surface of the gasoline or other fuel oil contained therein. This float is preferably formed of cork, and may be circular as shown in the drawings. Rising from a central point of the float is a pipe or tube 9, which passes through an opening arranged centrally of the top 4 and this pipe is open at its outer end to atmosphere. The inner end of the pipe is firmly secured to the float and communicates with the under side thereof. A check valve 10 may be arranged in the lower end of the pipe to prevent the escape of gases through said pipe.

The float has its under surface covered with a fine mesh fabric 11, which may be held in place upon the float in any suitable manner. A band 12 is shown in the present instance as encircling the float to clamp the edges of the mesh fabric securely to the sides thereof.

To obviate the possibility of gas leakage where the pipe 9 passes loosely through the top 4, a liquid seal 13 is provided. An annular apron 14 carried by the upper end of the tube 9 extends down into the liquid of the seal 13, so that any gases passing through the tube opening will be entrapped and prevented from passing to atmosphere.

In operation, the tank may be filled to a proper level with gasoline or other gas-producing liquid, which liquid may be poured into the container through the open top or through the upper end of the tube 9. When the wing nuts 5 are tightened, the top will be clamped securely upon the upper edge or rim of the tank, and a gasket as shown in the drawings may be employed to securely seal the cover to the tank. Evaporation within the tank causes the gases produced thereby to accumulate above the liquid level and pass through the pipe 7 to the storage container. Suction occurs in the pipe 7, due either to consumption of gas from the storage container

or the application of pressure to the pipe 7, the partial vacuum occurring within the tank 3 will be relieved by atmospheric air passing down through the pipe 9 to the lower surface of the float 8. This air travels across the lower surface of the said float and escapes at the edges thereof, throughout the entire distance coming into intimate contact with a relatively great quantity of fluid. To escape from beneath the float it is necessary that the air pass through the gauze or mesh fabric 11, whereupon any globules of liquid carried by the air will be broken up and the gas thus finely divided will accumulate in the upper part of the tank. Moreover, any impurities that might be contained in the air will be effectively removed therefrom by the wire mesh. Furthermore, the wire mesh acts as a screen or strainer for supplies of liquid poured into the tank from time to time through the pipe 9.

The check valve 10 may be of any suitable construction, and is illustrated only in a conventional manner in the accompanying drawings. This valve is merely to resist any tendency toward back pressure in the pipe 9.

From the foregoing it is apparent that I have provided a vaporizer fully capable of accomplishing the several objects set forth and which will prove highly effective in practice. By providing a relatively great surface beneath the liquid level in the tank and over which the air must pass before being liberated by the float, it is apparent that a thorough co-mingling of air and vapor will occur before the gas passes into the lead 7.

While the foregoing is a description of the invention in its preferred embodiment, it is to be understood that I am not necessarily restricted to the precise construction set forth herein, as variations in the structural details and arrangement of parts may be resorted to without departing from the spirit of the invention as defined by the claims.

Having thus described my invention, I claim:—

1. In a vaporizer, a tank having a gas outlet, a relatively flat float in said tank, a pipe having its inner end connected to and extending through to the under side of said float, the opposite end of said pipe extending to atmosphere, and a mesh fabric enclosing the sides and bottom of said float.

2. In a vaporizer, a tank having a gas outlet, a flat float in said tank, a pipe secured at its inner end to said float and extending through to the bottom thereof, the opposite end of said pipe communicating with atmosphere, a check valve in the inner end of said pipe, and a mesh fabric enclosing the bottom and sides of said float.

3. In a vaporizer, a tank having a gas outlet, a cover removably secured to said tank, said cover having a central opening therein, a float in said tank, a pipe connected to said

float and extending through said opening, a mesh fabric covering the sides and lower portion of said float and spaced from the bottom surface thereof, a liquid seal carried by said cover, and an apron depending from the upper end of said pipe and extending into said liquid seal.

4. In a vaporizer, a tank having a gas outlet, a flat imperforate buoyant member in said tank, a pipe having one end passed entirely through said member and in communication with the bottom of the same, the opposite end of said pipe extending to atmosphere, and a mesh fabric enclosing the sides and entire bottom of said member and spaced slightly from the said bottom.

5. In a vaporizer, a tank having a gas outlet, a solid float within said tank having a flat under surface, a pipe carried by said float and having its inner end communicating with said surface, the other end of said pipe opening to atmosphere, and a screen covering the entire under surface of the float.

In testimony whereof I hereby affix my signature.

WILLIAM T. PAGE.