

G. H. PEACOCK.

Carburetor.

No. 68,231.

Patented Aug. 27, 1867.

Fig. 1.

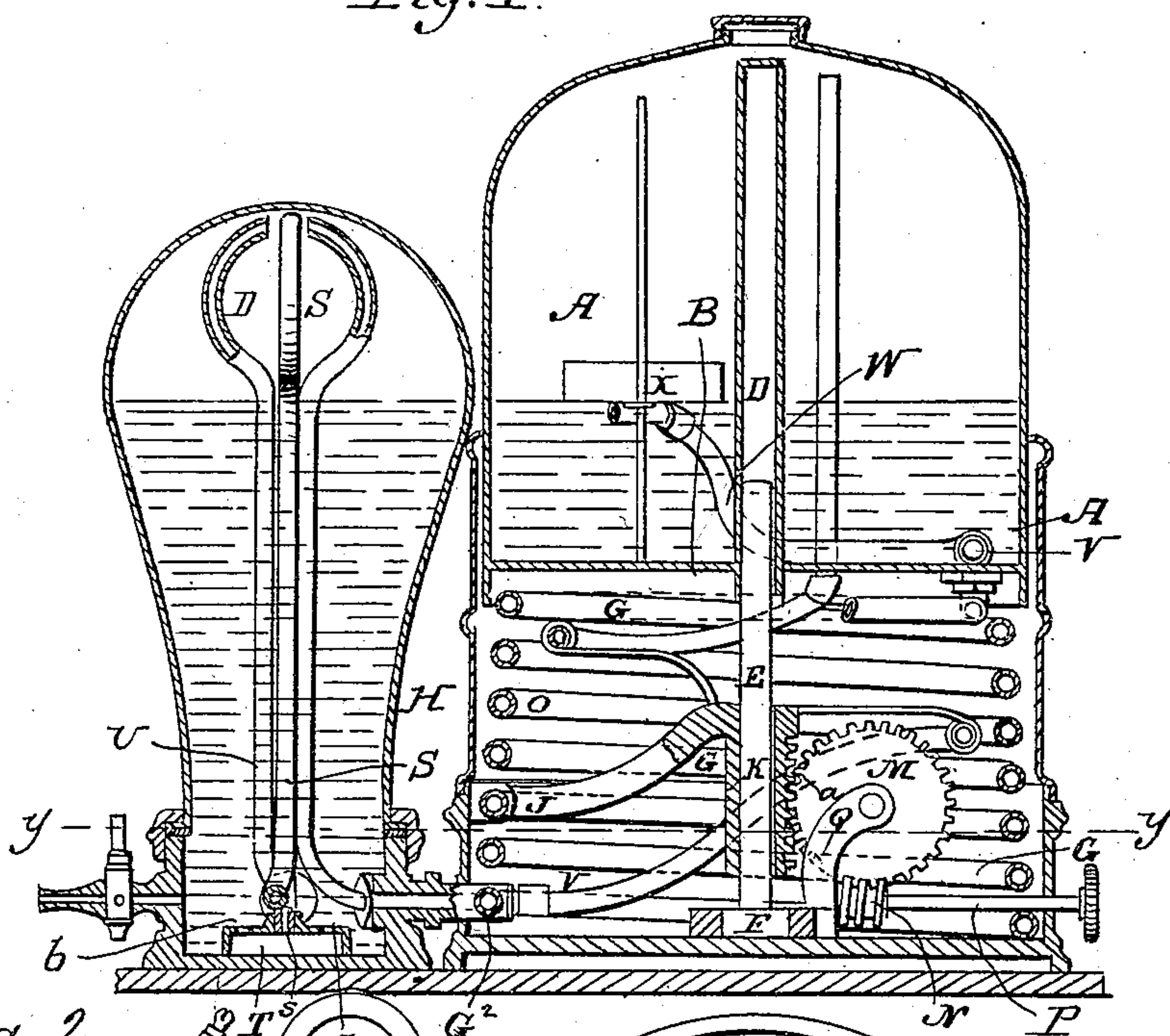
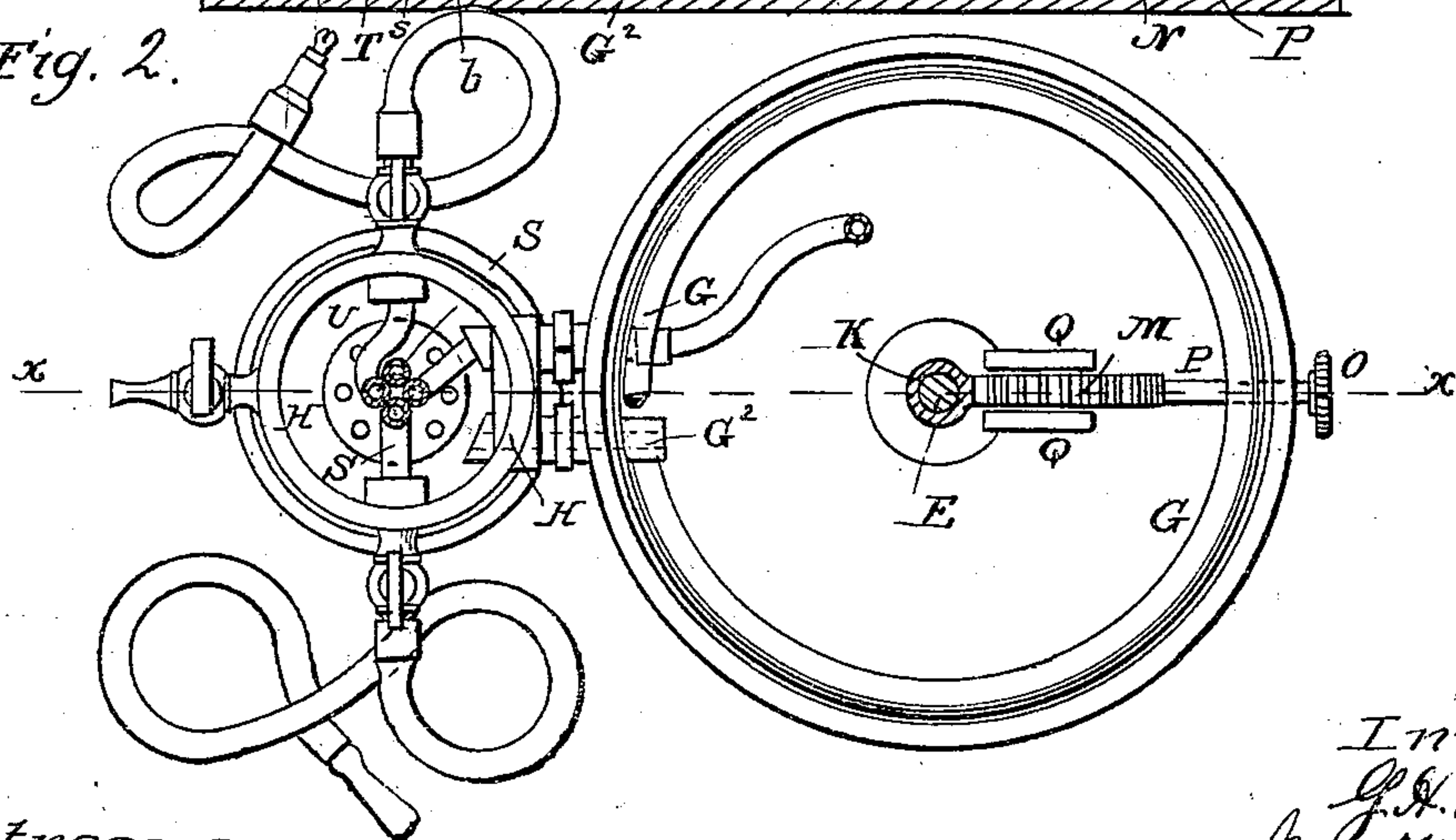


Fig. 2.



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Letters Patent No. 68,231, dated August 27, 1867.

IMPROVED CARBURETTING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE H. PEACOCK, of Fairport, in the county of Monroe, and State of New York, have invented new and useful improvements in "Apparatus for Carburetting Air, Gas, &c.," and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim, and desire to have secured to me by Letters Patent.

In the apparatus embraced in the present invention there is so combined and connected with a supply-tank or reservoir for the liquid hydrocarbons, another vessel into and through which the air, or gas, &c., to be carburetted is passed or forced in any suitable manner, that the liquid within the air-vessel can be always kept at a uniform and even or given height, or nearly so, whereby the air, &c., forced or passed into the same from time to time, whether the apparatus has been running for a longer or shorter time, is always subjected to an equal or corresponding amount of the liquid hydrocarbons, thus producing a gas of uniform density and richness at all times.

In addition to the above the connection between the supply and air-charging vessels is such that, first, the height to which the liquids are to rise and stand within the vessel wherein to be charged with air, &c., can be made either more or less, as may be found most desirable and necessary for the more perfect and proper production of gas therefrom, according as the liquids used are of a greater or lesser specific gravity or density; and, second, that the liquids, as they are drawn or pass from the supply-vessel, will be taken equally from its level, or surface and bottom, or near such points, whereby the liquid hydrocarbons in the air-charging vessels are always maintained at a uniform density, and thus a more thorough and even taking up or absorption of the liquids by the air, &c., secured at all times, the advantages of which are obvious.

In the accompanying plate of drawings, an apparatus for carburetting air, gas, &c., made according to the present invention is illustrated—

Figure 1 being a central longitudinal vertical section through the same, taken in the plane of the line *x x*.

Figure 2, a horizontal section, taken in the plane of the line *y y*, fig. 1.

A, in the drawings, represents a tank or vessel, which, in the apparatus, constitutes and is the supply-vessel, and contains or holds the liquid hydrocarbons with which air, gas, &c., is to be charged. This tank, in the present instance, is made of a cylindrical shape, and closed at both ends by head-plates B and C, the one, B, being the bottom, and the other, C, the top or upper plate. D, a centre tube to vessel A, to the bottom plate of which it is fixed at one end, and is there open, but extending up through the centre of the tank for nearly its entire height, is closed or sealed at its upper end. By this tube D the tank is placed over an upright spindle or shaft E, fixed to a suitable base or foundation-plate, F, and upon such post E it is free to move up and down in a vertical plane. G, a coil of pipe or tubing, secured at one end to under side of tank A, into which it there opens. This coil rests upon the foundation-plate F, and serves as a support to the tank, holding it up to a greater or lesser height, according to the pressure or weight of the hydrocarbons in the tank, and at its lower end it opens into a passage, G², that communicates with a vessel, H, suitably located therefor at or near its bottom or lower end. Into the vessel H, which, for convenience, I denominate the gas-generator, the liquid hydrocarbons from the tank A pass, if the communication between the two through the coiled tube or pipe be open and free, and therein must of necessity rise to a height equal to that at which they stand in tank A, above any given horizontal plane, and at such height within the vessel it will always so remain, for, as the liquids therein are taken up or absorbed by the passage of the air, gas, &c., through the same, to be hereinafter described, their place is supplied by the flow of liquids from the tank thereto, which, decreasing the weight upon the coil-tube, the tank is by the action of such tube raised sufficiently to bring the level of the liquid therein on a plane corresponding to that within the generator, or, in other words, as liquid hydrocarbons are taken up by the air, &c., which correspondingly reduces the bulk of the liquids in the tank, such tank is then lifted by the coil-tube to bring the level of its liquids at the same distance from the said given horizontal plane. The coil G of pipe has secured to it, at I, one end of an arm, J, that by a sleeve, K, at its other end, is placed over the centre shaft E on which the tank A is arranged to move up and down. This sleeve K, upon its outside, has a series of teeth

there formed with which a gear-wheel, M, is arranged to engage, and to operate thereon, as by the turning of the worm-gear N through the milled head O to its shaft P, such gear-wheel M is revolved in its bearings of the standards Q fixed to the foundation-plate F.

By means of the rack and gearing above described, the tank, with its coil, from the point where such coil is connected thereto, can be raised or lowered at pleasure, and there held, the object of which is to enable the height or level of the surface of the liquid hydrocarbons within the tank A to be increased or decreased relatively to a fixed horizontal plane, and which will in a corresponding degree secure a greater or lesser depth of liquid within the gas-generator, as is obvious without any further explanation. By this means I am enabled to regulate more perfectly the action of the apparatus to the quality or density of the liquid hydrocarbons which may be used therein for carburetting air, gas, &c. For bringing air, gas, &c., to be charged with hydrocarbon, into contact with the liquid hydrocarbons within the generator H, a pipe, S, is arranged therein, that at one end, upon the outside of the generator H, is connected through any suitable pipe or tubing with an air or other suitable apparatus for feeding the air, gas, &c., and at its other, after passing up and down through the entire height, or nearly so, of the generator, with a chamber, T, at the bottom of the generator, from which it escapes through holes *b*, and thence passes up and through the entire depth of liquid within the generator, thereby becoming charged with hydrocarbon. It enters the open end of a pipe, U, above the level of the fluid which is contained within the generator, and through such pipe passes out into any suitable conducting pipes or tubes connected therewith for being burned or otherwise consumed. For equalizing the pressure upon the liquid both in the tank and gas-generator I connect the chambers of the two above the level of the liquid therein, in each case through a flexible tube, V, by means of which gas is allowed to flow from the latter to the former, and thus the pressure equalized. If the pressure in both vessels upon the liquids therein were not equalized in the manner above described, or in some other suitable mode, it is plainly obvious that the flow of the liquid from the tank to the generator could not occur as described. With the liquid in the tank A, communication is had by the coil pipe G, at its surface as well as at its bottom, through and by means of a flexible tube, W, that at its lower end communicates with the said coil at the bottom of the tank, and at its upper end is open, and there floats by means of a suitable float, X, upon the surface of the liquid. Y the communication for the liquid with the coil G at the bottom of the tank.

By means of the two communications above described with the surface and bottom, or nearly so, in each instance, of the liquid in the tank A, liquid of an even and uniform specific gravity, or nearly so, is conducted to the gas-generator, the advantages and object of which are obvious without any particular mention herein. In lieu of the pipe between the tank A and gas-generator H, constituting the support for the tank A, an equivalent support may be produced by a coiled spring, or by means of weights, and the communicating pipe be made separate and distinct therefrom, or a coiled or other suitable spring or weight, or both, may be used in connection with the said coil of pipe or tubing.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. A reservoir or tank for liquid hydrocarbons, in combination with a vessel through which air, or gas, &c., is forced or passed in any suitable manner, when the two are so connected as to enable a uniform or even height, or nearly so, of liquid to be maintained in the latter or air or gas-vessel, substantially as described for the purpose specified.

2. In combination with the above, so arranging the supply-tank or reservoir that it can be adjusted for maintaining a greater or less height, or nearly so, of liquid within the generator-vessel, substantially as and for the purpose described.

3. So arranging a pipe or tube or tubes within the supply-tank, which pipe or pipes connect with the tube or other communication between the said tank and the generator-vessel, as to take the liquid in the tank both from a point at or near its surface, and at or near its bottom, substantially as and for the purpose specified.

4. The combination of the tank A, vessel H, and coil of pipe G connecting the two, substantially as and for the purpose described.

5. The arrangement of the air-pipe within the generator H, in combination with the chamber communicating with such generator, substantially as and for the purpose specified.

The above specification of my invention signed by me this 6th day of July, 1867.

GEO. H. PEACOCK.

Witnesses:

WM. F. McNAMARA,

J. A. SERVICE.