

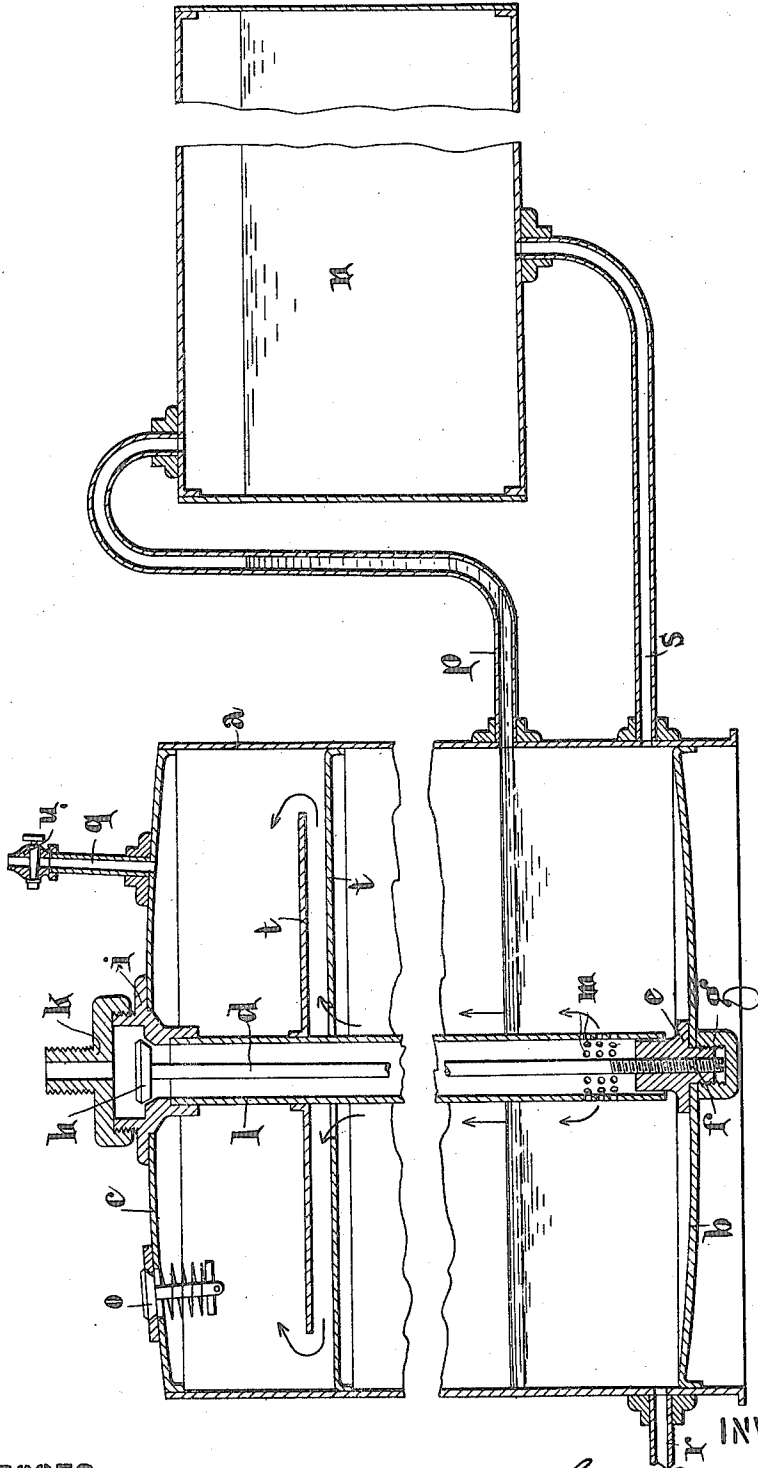
G. CONSTANTINESCO.

CARBURETER.

APPLICATION FILED JULY 17, 1913.

1,206,512.

Patented Nov. 28, 1916.



WITNESSES
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GOGU CONSTANTINESCO, OF LONDON, ENGLAND.

CARBURETER.

1,206,512.

Specification of Letters Patent.

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Application filed July 17, 1913. Serial No. 779,492.

To all whom it may concern:

Be it known that I, GOGU CONSTANTINESCO, a subject of the King of Roumania, and residing at 11 Hart street, Bloomsbury, London, W. C., England, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

This invention relates to apparatus for obtaining a supply of air or gas, carbureted and containing hydrocarbons, for illuminating purposes and at the same time to supply hydrocarbon fuel to a carbureter of an engine.

The invention consists in carbureting apparatus for air or gas comprising a fuel reservoir from which fuel passes to a chamber in which the air or gas is carbureted and from which a passage leads to the engine carbureter so that the fuel is led away from the carbureting chamber to the engine carbureter, its place being taken by a fresh supply whereby the composition of the fuel in the carbureting chamber is kept substantially constant.

The invention further consists in the improved apparatus hereinafter described.

The accompanying drawing illustrates diagrammatically one form of the present invention, the chamber *a*, and the reservoir *n*, being shortened for the purposes of illustration.

In carrying the invention into effect according to one form there is provided a reservoir *a*, preferably of cylindrical form having two ends *b* and *c* which are flat or very slightly convex. The lower end *b*, supports at its center a rigid rod *d*, screwed into a fitting *e*, fixed in a fluid tight manner to the end *b*. The lower end of the rod *d* has a notch *f* to allow of the introduction of a screw driver therein, for the purpose of adjusting the rod in the fitting *e*. A cap *g* serves to protect the end of the rod and to insure a fluid tight joint. The other end of the rod *d* carries a valve head *h*, the seat *i* of which is fixed in a fluid tight manner to the cover *c* of the chamber. This valve is covered by a cap *k* which serves to admit the air or gas to be washed and carbureted. The seat of the valve *i* extends downward in the form of a tube *l* which is fixed to the cover *c* and is guided at its lower end by the fitting *e* on which it can slide freely. At a short distance from the bottom of the cham-

ber, the tube *l* is perforated with holes *m* distributed uniformly around the tube.

At a certain distance from the upper end of the reservoir there is arranged a baffle constituted by two plates *t t* fixed, one to the wall of the chamber, and the other to the tube *l*. At *o* there is a safety valve for preventing too great a rise of pressure in the interior of the chamber. It is assumed that the chamber *a* is filled to a certain level below the plates *t* with the carbureting liquid.

The operation of the apparatus is as follows:—The air or gas to be carbureted is supplied by a pump or other suitable means (not shown) through the cap *h* at a certain pressure. It passes through the space between the head *h* and the seat *i* and thence takes its course between the rod *d* and the tube *l* to the level of the holes *m*. On issuing from these holes it bubbles up through the liquid and reaches the upper part of the chamber, whence it passes away through the conduit *q* and cock *u*. The conduit *q* is led to the lamps while in order to put the fuel tank under pressure the conduit *p* is led to said tank as shown in the drawing. To automatically maintain a definite level in *a*, irrespective of the height of *n* above *a* the pipe *p* is led from a point in *a* at the level it is desired to maintain to the top of the tank *n* as shown. The pressure in the chamber *a* is above atmosphere by an amount equivalent to the difference in levels of the liquid in the chambers *m* and *a*. If the pressure rises sufficiently to force the level in the chamber down to the point at which the pipe *p* enters that chamber, there is an immediate flow of fuel from the chamber *m* so that the level is maintained in chamber *a* at the level of the pipe *p* as shown in the drawing. The operation of the chamber *a* in order to maintain a constant pressure in that chamber is as follows:

Assuming that for some reason the pressure inside the chamber *a* increases then the two ends *b* and *c* will undergo a proportionate elastic deformation and the two fittings *i* and *e* will have a tendency to move away from each other, which causes the valve head *h* to move nearer to its seat and consequently the amount of admitted air or gas to be diminished.

It will be readily perceived that the pressure inside the reservoir cannot exceed the pressure necessary to move the two ends *b*

and *c* apart sufficiently to close the valve *i* completely. Therefore, if the pressure of the air or gas to be carbureted is always greater than that limit, the internal pressure will remain constant and will approximate the more closely to this limit the greater the surface of the valve, because then on the least drop of pressure in the reservoir below this limit the valve will open and allow a further quantity of air or gas to pass into the chamber *a*, which quantity will tend to bring back the pressure to what it was previously. This apparatus being intended for use on motor cars, it is provided at its lower part with two connectors *r* and *s*, the connector *s* is connected to the main fuel reservoir *n* feeding the engine while other connector *r* is adapted to be connected to the carbureter of the engine. The connector *q* can be connected at will by the cock *u* to the lamps for lighting. Under these conditions let it be assumed that through *k* there is admitted compressed mixture, air, or exhaust gases from the engine cylinder, or any other gas supplied by the engine or from an independent source. The level of the liquid will sink to the level of the connector *p*, irrespectively of the level in the main reservoir *n* of the motor provided that the latter is fluid tight. The gas will bubble through the holes *m*, and since the main carbureter of the engine while running continually consumes fuel issuing through *r*, it follows that the liquid through which the gas bubbles is constantly renewed and thus maintains an almost constant degree of concentration.

The degree of carburation is proportional

to the depth between the holes *m*, and the level of the liquid so that the gas is regularly carbureted and washed by bubbling up through a liquid column of constant height and concentration which is continually being renewed.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

Means for supplying both combustible gas and liquid fuel comprising in combination a fuel supply tank, a carbureting chamber, said carbureting chamber having flexible ends, a valve stem connected to one end of said chamber, a valve box secured to the other end of said chamber, a valve seat formed in said valve box, a gas supply pipe leading into said valve box, two pipes connecting said fuel supply tank with said carbureting chamber, one of said pipes leading from the bottom of said tank to the bottom of said chamber, the other of said pipes leading from the top of said tank to an intermediate point in the height of said chamber, a guiding tube fixed to the top of said carbureting chamber, said tube having perforations below the level of the liquid in said carbureting chamber, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GOGU CONSTANTINESCO.

Witnesses:

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JOHN A. PERCIVAL.