(No Model.)

G. H. BURROWS.

CARBURETOR.

No. 522,574. Patented July 3, 1894.

FIG. 1.

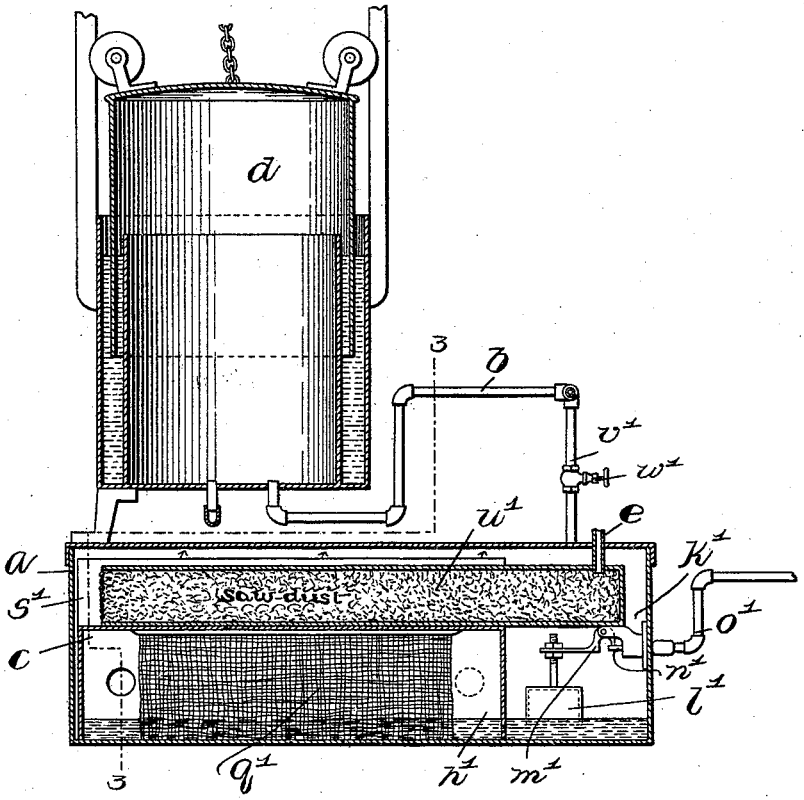


FIG. 2.

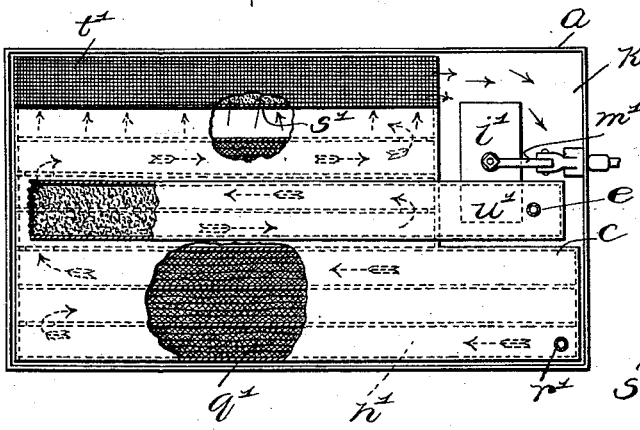
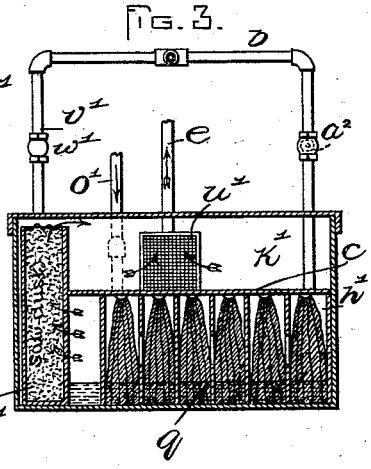


FIG. 3.



WITNESSES:

A. D. Harrison.

L. P. Davis.

INVENTOR:

G. H. Burrows

by Wright Brown Quinby & Attys.

UNITED STATES PATENT OFFICE.

GEORGE H. BURROWS, OF SOMERVILLE, MASSACHUSETTS.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 522,574, dated July 3, 1894.

Application filed March 30, 1894. Serial No. 505,709. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BURROWS, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Carburetors, of which the following is a specification.

The present invention has in view the provision of a carburetor which will produce a more satisfactory product by causing a more thorough admixture of the vapors than heretofore, and will provide means for regulating the quality of the product.

To this end, the invention may be said to consist in certain novel arrangements and combinations of parts recited in the appended claims and specifically described hereinafter.

The accompanying drawings illustrate a construction embodying the invention, and form part of this specification.

Figure 1 shows a sectional view of the carburetor in connection with air-supplying means. Fig. 2 shows a plan view of the carburetor with its cover removed and parts represented as broken out. Fig. 3 shows a cross-section on line 3—3 of Fig. 1.

In the drawings—*a* represents the carbureting tank or chamber, in which the carburetor *c* is placed, and in which air and hydrocarbon vapors are mingled to form illuminating or heating gas. Air is admitted to said carburetor and chamber through a pipe *b* from the floating holder *d*, said floating holder being of any suitable kind adapted to supply pressure and the resulting gas or mixture of gases and vapors is conducted from the chamber through a pipe *e* to the burners.

The pipe *b* leads out of the air reservoir into the carburetor *c*, which is composed of a tortuous passage *h'* containing wicks *q'* or any suitable absorbent material. It rests on the bottom of the receiver *a*, and is so constructed as to provide a space *k'* (Fig. 2) in the receiver, in which is placed a float *l'* which is attached to a lever *m'* for moving the spindle of a valve *n'* adapted to the supply-pipe *o'* of the tank for supplying the carburetor with gasoline. By means of the float, the valve will be closed on the gasoline attaining a sufficient height in the carburetor, the wicks *q'* of which enter the fluid and by capillary attraction raise it and expose it to the air that may be passing through said carburetor. The tortuous passage is best shown in Fig. 2, by the dotted lines and the dotted arrows indicated thereon.

The pipe *b* enters through the top of the receiver *a*, and enters the carburetor *c* at *r'* (Fig. 2), and conducts the air under pressure of the reservoir *d* along the tortuous passage in the direction of the dotted arrows, where it mingles with the vapor of the gasoline, and enters a "chamber" *s'* containing sawdust or other suitable porous material and having its top composed of fine wire gauze *t'* through which the vapor and air are adapted to pass into the receiver *a*. The sawdust or other porous material in the chamber *s'* causes the air passing therethrough to be more uniformly saturated with the vapors, and also serves to some extent as a drying chamber owing to the porous material removing from the air any excessive vapors that may have been taken up by some portions of the air. The mixed air and vapor then pass through a second chamber *u'*, also filled with sawdust and provided with a wire gauze covering at the inlet of the chamber, through which the mixed gas now passes to the consumer through the pipe *e* at the other end of the chamber *u'*.

The pipe *b* is provided with a branch *v'*, which enters the receiver *a* and is provided with a valve *w'* by, which to control the admission of air into the receiver to dilute the gas contained therein when the latter is too rich with vapor and before it passes into the chamber *u'*.

When it is desired to dilute the gas and reduce its candle-power, the quantity of gas passing through the tortuous passage containing the wicks *q'* may be reduced by partly closing the valve a^2, and the air that passes into the chamber *k'* may be increased by increasing the opening of the valve *w'*. The gas is thus diluted to any desired extent.

Illuminating gas made from coal, in the ordinary manner, may be used instead of air, said gas being passed through the carburetor in the manner described, through the pipe *b* or through both pipes *b* and *v'*. The gas that passes through the pipe *b* is enriched by the hydro-carbon vapors taken from the wicks *q'*, its enrichment causing the combustion of practically all of the otherwise incombustible elements of the gas. The candle-power may

be regulated, as before in the case of the air, by regulating the quantity or proportion of gas admitted through the pipes b and v' by adjusting the valves a^2 and w'. I do not, therefore, limit myself to the employment of the carburetor in connection with the air-forcing apparatus.

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

1. A carburetor comprising an inclosing tank, a series of passages in a horizontal plane forming a tortuous passage therein adapted to contain volatile liquid and containing suitable absorbent material, a chamber communicating with said passage and having a foraminous top through which vapor may pass into the tank, and an auxiliary mixing chamber communicating at one end with the tank and at the opposite end with an off-take pipe.

2. A carburetor comprising an inclosing tank, a series of passages in a horizontal plane forming a tortuous passage therein adapted to contain volatile liquid and containing suitable absorbent material, a chamber communicating with said passage and having a foraminous top through which vapor may pass into the tank, an auxiliary mixing chamber communicating at one end with the tank and at the opposite end with an off-take pipe, and a supply-pipe communicating with the tortuous passage and having a valved branch communicating with the tank.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 24th day of March, A. D. 1894.

GEORGE H. BURROWS.

Witnesses:
A. D. HARRISON,
ROLLIN ABELL.