C. G. SPENGLER.

Carbureting Attachment for Gas-Burner.

No. 199,323. Patented Jan. 15, 1878.

Fig.1.

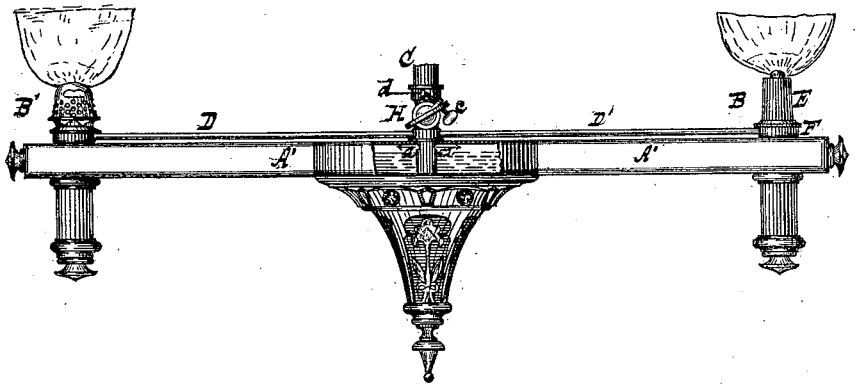


Fig.2

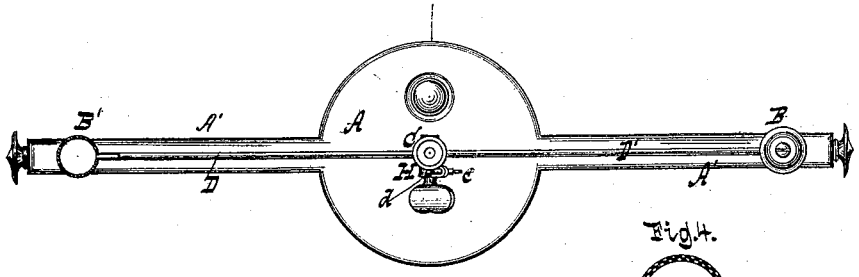


Fig.4.

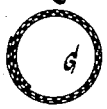
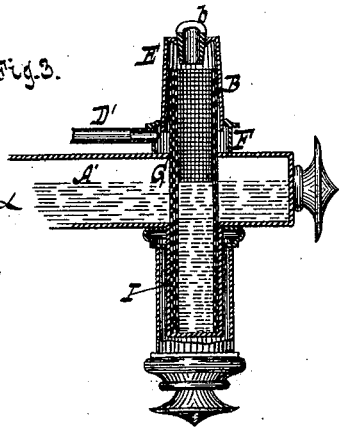


Fig.3.



Witnesses

~~Otto~~ Schupeland

Chas. Wahlers.

Inventor.

Christian G. Spengler

by

Van Santvoord & Hauff

his attorneys.

UNITED STATES PATENT OFFICE.

CHRISTIAN G. SPENGLER, OF HOBOKEN, NEW JERSEY.

IMPROVEMENT IN CARBURETING ATTACHMENTS FOR GAS-BURNERS.

Specification forming part of Letters Patent No. **199,323**, dated January 15, 1878; application filed November 23, 1877.

To all whom it may concern:

Be it known that I, CHRISTIAN G. SPENGLER, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Carbureting Attachments for Gas-Burners, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of my contrivance, partly in section. Fig. 2 is a sectional plan or top view thereof. Fig. 3 is a vertical section of the gas-burner which I use. Fig. 4 is a cross-section of an absorbent cylinder forming part of the burner.

Similar letters indicate corresponding parts.

My invention relates to a contrivance for burning illuminating-gas, for enriching such gas by the vapors of a suitable oil, or for burning the oil independently of the gas.

It consists in the combination of an oil-reservoir carrying one or more burners, a gas-supply pipe forming a support for such oil-reservoir, and a feed pipe or pipes extending from said gas-supply pipe to the burners, in such a manner that the gas is conducted from the supply-pipe directly to the burners, and if the latter are adapted for burning gas, and the gas issuing therefrom is lighted, the burners are thereby heated, which has the effect of vaporizing any oil contained in the reservoir, in which form it commingles with the gas issuing from the burners, while at the same time the gas may be used alone, or vice versa; also, in so arranging the aforesaid gas-supply pipe that it extends down into the oil-reservoir, and in providing the same with discharge-orifices (one or more) at a point within and near the top of the reservoir, so that the gas is permitted to enter the reservoir at or near its middle portion, besides at the point of attachment of the burners, and by this means the pressure of the gas on the oil is equalized; further, in combining, with the oil-reservoir, the gas-supply pipe, and feed pipe or pipes, a burner constructed of a closed cap having a suitable tip, and of a foraminous cylinder, which extends up into the cap and down into the reservoir, so as to absorb the oil contained in the latter and carry the same up into the cap, where it is speedily vaporized, as hereinafter more fully set forth.

In the drawing, the letter A designates the central portion of the oil-reservoir of my fixture, which, in the example shown, has the form of a chandelier, with hollow radial arms A′, and B B′ are two burners affixed to said reservoir near the extremities of the opposite arms A′. C is a gas-supply pipe, which is connected with a gas-meter, and which forms a support for the reservoir A. D D′ are feed-pipes extending from the supply-pipe C to the burners, so that the gas is conducted from said supply-pipe to the burners.

If the burners B B′ are adapted for burning gas, and the gas is turned on and lighted, the burners are thereby heated, by which means the oil contained in the reservoir A is vaporized, the vapors thus produced being caused to commingle with the gas issuing from the burners.

A portion of the gas which is received in the burners B B′ from the supply-pipe C enters the oil-reservoir arms A′ at the point of the gas-burners; and to obviate the inequality in the pressure of the gas on the oil, when it enters only at this point, I so arrange the gas-supply pipe C that it extends down into the reservoir, and provide said pipe with discharge-orifices *a*, (one or more,) near the top of the reservoir, so that the gas enters the reservoir also at its middle portion and above the oil, whereby the pressure on the latter is equalized.

The form of burner which I prefer to use is constructed of a closed cap, E, which is provided with a tip, *b*, and of an absorbent cylinder, G, which is arranged to extend up into said cap and down into the oil-reservoir A.

The cap E is connected to a nipple or collar, F, which projects up from the reservoir-arm A′, and forms the connection of the burner with the gas-feed pipe or pipes, while the absorbent cylinder G is constructed of a piece of wire-gauze or perforated sheet metal wound on itself, as shown in Fig. 4. This foraminous cylinder G, moreover, is held in position by a thimble, I, projecting from the lower part of the reservoir-arm A′, the cylinder being fitted in said thimble, and being placed loosely therein, as shown.

By the cylinder G the oil contained in the reservoir-arm A′ is carried up into the cap E, the interior of which constitutes a heating-chamber, so that the oil is very speedily vaporized.

The burner last described is adapted for burning the gas supplied by the pipe C either alone or in conjunction with the vapors of the oil contained in the reservoir. If desired, however, an Argand or other lamp burner of the class having a wick may be used in lieu of my burner, as shown at B in Fig. 1, said burner being first adapted for connection with the branch gas-pipe D.

In the gas-supply pipe C is arranged a stop-cock, H, and with the plug of this cock is combined a set-screw, *c*, while on the shell of the cock is cast or otherwise formed a stop, *d*, against which the screw *c* strikes, so as to limit the movement of the plug. By a suitable adjustment of the screw *c* a fixed quantity of gas can be allowed to pass through the cock H at all times.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of an oil-reservoir carrying one or more burners, a gas-supply pipe opening centrally into and near the top of said reservoir, and one or more branch gas-supply pipes connected with said reservoir near its top, and the points of attachment of the burner or burners, whereby the gas-pressure upon the surface of oil in the reservoir will be evenly distributed, substantially as and for the purpose set forth.

2. The combination, with an oil-reservoir, gas-supply pipe, and gas-feed pipe or pipes, arranged as specified, of a burner constructed of a closed cap having a suitable tip, and of a foraminous absorbent cylinder or wick extending up into such cap and down into the oil-reservoir, substantially as and for the purpose described.

3. The combination, with the gas-plug, of the set-screw *c*, having a suitable bearing thereon, and the stop *d*, substantially as and for the purpose set forth.

4. The combination, with the oil-reservoir arm, of the nipple or cap E, connected with branch gas-pipe D′, the thimble I, and the foraminous cylinder or wick G, extending upward into said nipple, and downward through the reservoir-arm into said thimble, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 13th day of November, 1877.

C. G. SPENGLER. [L. S.]

Witnesses:
PHILIPP NEW,
E. F. KASTENHUBER.