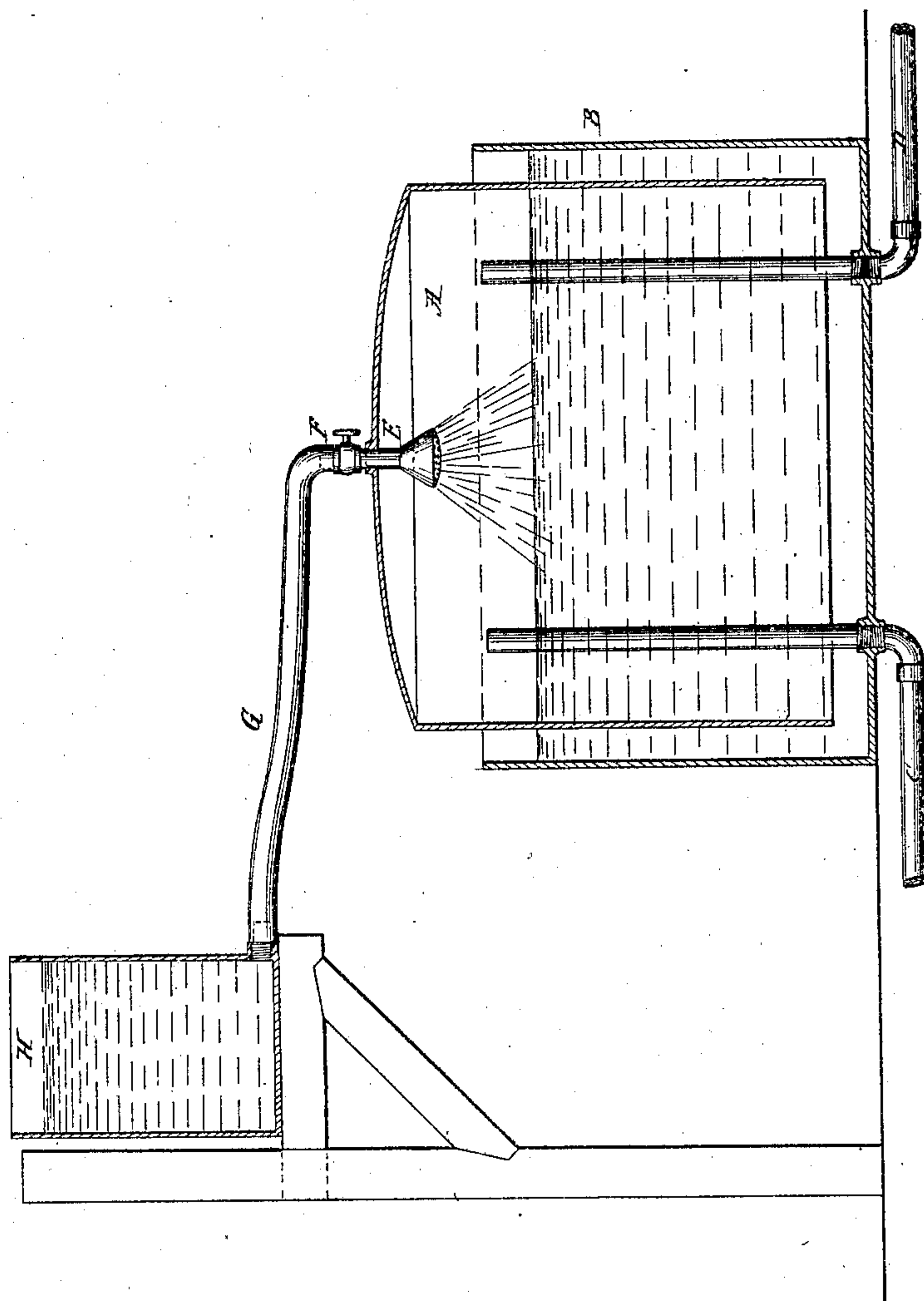


C. M. WILLIAMS.
METHOD OF CARBURETING GAS.

No. 61,033.

Patented Jan. 8, 1867.



Witnesses
Jno. B. Beatty
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Inventors:
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CYRUS M. WILLIAMS, OF NEW YORK, N. Y., ASSIGNOR TO HENRI L. STUART, OF SAME PLACE.

Letters Patent No. 61,033, dated January 8, 1867.

IMPROVED METHOD OF CARBURETTING GAS.

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, CYRUS M. WILLIAMS, of the city, county, and State of New York, have invented a new and useful improvement in Method of Carburetting Gas; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of this invention is to provide for the uniform carburization of coal gas in large volumes before its distribution to the service mains; and consists, for this purpose, of the application of the hydro-carbon liquids to the volume of gas when in the holder, by such devices as will thoroughly incorporate with the gas a proportion of the vapors of a volatile hydro-carbon, thus adding to its photometric value. In the ordinary methods and appliances for carburetting, the hydro-carbon vapor is added to the gas after it has passed through the metre on the premises of the consumer, necessarily involving a large number of different forms of apparatus to suit the various conditions, and a consequent increase in the care and attention to keep it in proper working order. All this may be more perfectly accomplished before the distribution of the gas, with a corresponding diminution of labor. There are many forms of apparatus which may be used to accomplish this result, the most obvious and simple method being to introduce a quantity of hydro-carbon liquid upon the surface of the water in the tank inside the holder, where it will float on the surface of the water, and by its evaporation mix with the volume of gas in the holder, the hydro-carbon being added from time to time, as required. But I prefer to use the device shown in the drawing, by which the hydro-carbon liquid is divided into fine particles and showered through the volume of gas, permeating it thoroughly; the remaining liquid falling through any carburetting fibrous substance to prolong the division of the hydro-carbon fluid or not, on to the surface of the water, and being evaporated as in the first method. The carbon spirit may be contained in a reservoir placed at a sufficient height above the holder to descend by its weight, being connected with the holder by a flexible tube or sliding pipes to compensate for the rise and fall of the holder, the motion of which may also be used to work any automatic device or apparatus necessary or desirable to regulate and supply the proper quantity and regular flow of the hydro-carbon liquid; or by means of a force-pump intermittent showers of spray may be injected, accomplishing the same result. It may be found desirable to suspend in the holder some fibrous material for the purpose of increasing the evaporating surfaces, and arranged so as to receive the dropping of the shower of hydro-carbon. The temperature of the water in the holder may be regulated as desired. For this purpose the waste heat from the furnace or steam pipes may be used for the purpose of maintaining a uniform temperature of the water in the tank, thus keeping the evaporation of the hydro-carbon under control.

The drawing indicates a vertical section of the apparatus used.

A represents the gas-holder. B the tank for water. C is the inlet, and D the outlet for gas. E is the sprinkler for the purpose of distributing the hydro-carbon. F is the valve by which the supply of hydro-carbon is regulated. G, flexible tubing connecting the supply tank with the holder. H, supply tank.

I have described the means of carburetting the gas in the gasometer or holder, but it is obvious that it may be carburetted by similar means in the hydraulic main, the scrubber, or in any of the purifiers. I do not, therefore, limit myself to the precise devices herein shown and described, nor to carburetting in the gas-holder; but what I do claim as my invention, and desire to secure by Letters Patent, is—

1. Carburetting illuminating gas by mixing or combining with it the vapors of volatile hydro-carbons before it is introduced into the service mains for distribution, substantially as described.
2. I also claim the devices herein shown and described, for carburetting gas in the holder before its distribution to the service mains.

C. M. WILLIAMS.

Witnesses:

O. A. BASSETT,
MARIE STUART.