

W. B. BILLINGS.  
VAPOR LAMP.

No. 30,194.

Patented Oct. 2, 1860.

Fig. 1.

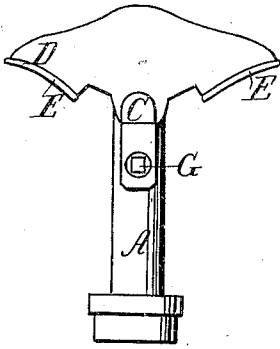


Fig. 2.

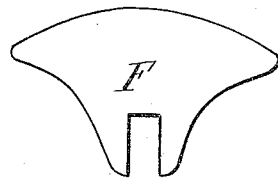


Fig. 3.

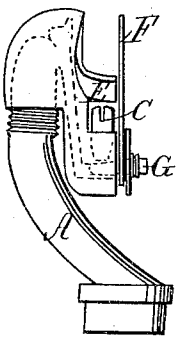
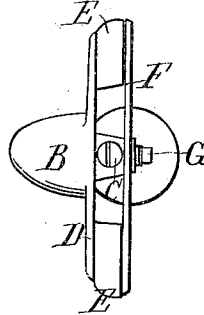


Fig. 4.



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# UNITED STATES PATENT OFFICE.

WM. B. BILLINGS, OF NEW YORK, N. Y.

## VAPOR-LAMP.

Specification of Letters Patent No. 30,194, dated October 2, 1860.

*To all whom it may concern:*

Be it known that I, WILLIAM B. BILLINGS, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Vapor and Gas Burners; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

It is well known that the illuminating power of vapor or gas will be greatly increased if said vapor or gas be heated to a high temperature before ignition. Various arrangements of devices have been employed in lamps to heat the vapor and gas after the generation of the same. But these arrangements are often complicated and expensive if not inoperative.

The object of my invention is to construct a simple, cheap and efficient generator and heater of gas and vapor.

In the accompanying drawings, Figure 1, is a front view of my burner, the front flange being removed. Fig. 2, is the removable front flange, not shown in Fig. 1. Fig. 3, is a side view of my burner. Fig. 4, is a top view of the same.

The burning fluid enters the burner through tube A, and may be carried to the heater B, by means of capillary attraction in a wick, by hydraulic pressure, or by other suitable means. In the heater B, the burning fluid is exposed to the heat of the flame from the tip C and converted into vapor or gas according to the intensity of the heat. The passage of the gas from the heater B to the tip C, is shown in dotted lines, Fig. 3.

The heater B is provided with a broad flange D, Fig. 1, projecting on both sides of the heater, as best seen in Fig. 4. This flange carries two small wings E. A removable flange F, Fig. 2, is placed in front of the flame, as seen in Figs. 3, and 4. These two broad flanges, D and F, and the two small wings E, form, when united, a sort of chimney, with a passage corresponding somewhat

to the shape of the flattened flame from the tip C. The chamber within the heater B should also be flattened so as to present a broad stratum of gas to the concentrated heat of the flame; but I find that a single passage drilled to the top of the hollow heater B, (as seen in dotted lines, Fig. 3,) will usually expose the fluid or gas sufficiently to the heat of the flame. In burning some materials, the flange F may be removed and the burner used as represented in Fig. 1.

The supply of gas or vapor and the size of the flame are regulated by means of the conical screw stop cock G.

The tube A is made of some metal which is a non-conductor or slow conductor of heat,—as white metal (tin with a few grains of copper) or “Babbitt metal”, in order to prevent the heat from escaping to the lamp when the burner is under a high heat.

The flanges and wings may be somewhat varied in shape and relative position, or they may be perforated or fissured without departing from my invention. I have attached the side wings E to the tip or tube below the flame, leaving an open space for draft between the wings E and the flanges D and F, but I prefer the arrangement above described.

Having thus fully described my invention what I claim and desire to secure by Letters Patent of the United States is—

1. The use of the hollow heater B, when constructed substantially as described, and provided with the broad flange D, for the purposes set forth.

2. The use of the removable flange F, in combination with the heater B, and broad flange D, when constructed substantially as described, for the purpose of regulating the heat and the illuminating power of the lamp, thus adapting the same to burning different materials.

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Witnesses:

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