(No Model.)

H. F. SMITH.

GAS BURNER.

No. 476,694. Patented June 7, 1892.

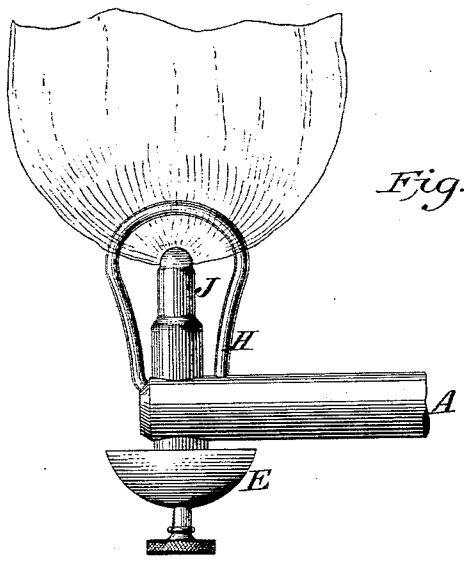

Fig. 1.

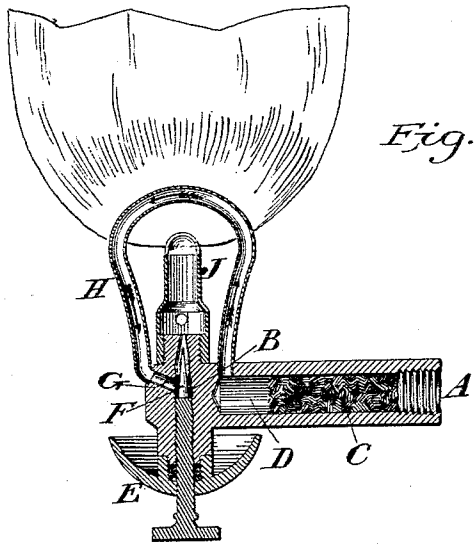

Fig. 2.

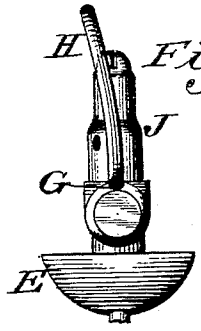

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

HARPER F. SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO WILLIAM F. McCULLY, OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 476,694, dated June 7, 1892.

Application filed March 7, 1892. Serial No. 424,097. (No model.)

To all whom it may concern:

Be it known that I, HARPER F. SMITH, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Gas-Burners, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in the class of gas-burners where the flame is produced by the vaporization of hydrocarbon or other fluid or ore of an illuminating nature; and it consists of a single superheating-tube rising centrally from the body of the burner and deflected to one side of the burner proper while subjected to the heat of the same without affecting the flame.

It also consists in forming a bore in the wall of the chamber of the needle-valve, leading directly thereinto, and connecting therewith one end of the superheating-tube, whose other end is connected with the primary gas-chamber, thus vastly simplifying the construction of that feature of the burner.

Figure 1 represents a side elevation of a gas-burner embodying my invention. Fig. 2 represents a longitudinal section thereof. Fig. 3 represents a front end view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates an oil-supply pipe, with which is connected the valve-chamber B, said parts being preferably cast together. In the pipe A is packing C, which partly fills the same, leaving at the end next to the wall of the chamber B the vaporizing-chamber D, which is heated by alcohol or other proper fluid placed in the cup E, secured to the bottom of the burner. In the chamber B is the needle-valve F, which is readily operated from below, as usual in such cases. In the wall of the chamber B opposite to the pipe A is a bore G, which leads directly into said chamber and is in communication with one end of a tube H, whose other end is connected with the pipe A, so as to be in communication with the chamber D, it being noticed that said tube is somewhat of arch form, and that it rises centrally from the pipe A and wall of the chamber B and partly straddles the burner J, while its upper end is deflected sidewise from the tip of the same, but not sufficiently to escape the heat of the flame.

The operation is as follows: The oil is vaporized in the chamber D and the vapor flows through the hot tube H, whereby it is superheated, in which condition it passes through the bore G into the valve-chamber B, and from thence to the tip, where it is consumed, producing a brilliant flame and readily heating the tube H, as is evident, it being seen that the burner is of simplified and inexpensive construction and effective and practical in operation.

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

1. A gas-burner consisting of a supply-pipe with a vaporizing-chamber, a valve-chamber connected thereto, and a single superheating-tube extending centrally from said pipe and the wall of said chamber beside the burner proper and being deflected at top from the tip of the same, substantially as described.

2. A gas-burner consisting of a supply-pipe with a vaporizing-chamber therein, a valve-chamber attached to said pipe, and a single superheating-tube extending centrally from one chamber to the other beside the burner proper and deflected from the tip of the latter, the wall of the valve-chamber having a bore leading directly from said chamber to the adjacent end of the superheating-tube, said parts being combined substantially as described.

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