T. HALEY.

Gas-Burner.

No. 161,028. Patented March 23, 1875.

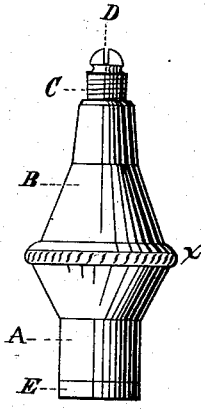

Fig. 1.

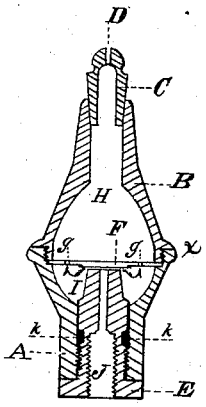

Fig. 2.

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UNITED STATES PATENT OFFICE.

THOMAS HALEY, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **161,028**, dated March 23, 1875; application filed February 13, 1875.

To all whom it may concern:

Be it known that I, THOMAS HALEY, of Cambridge, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Gas-Burners, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation, showing my improved burner; and Fig. 2, a vertical longitudinal section of the same.

Like letters of reference indicate corresponding parts in the different figures of the drawing.

My invention relates more especially to that class of burners which are designed for burning gas generated from the products of some hydrocarbon oil; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a simpler, cheaper, and more effective device is produced than is now in ordinary use.

In the drawing, A B represent a circular oblong case or receiver, composed of two hollow conic frustums united at their bases by the screw *x*, the diaphragm F being formed of sheet metal being centrally disposed in a horizontal position within the case, being secured in position by the joint uniting the two frustums, thus dividing the case laterally into the lower or receiving chamber I and upper or expansion chamber H. The bottom of the lower frustum is open and threaded to receive the tubular plug E, which is provided with the packing *k k*, and fitted to be screwed onto a gas-pipe in the ordinary manner. A tip, C, having the slot D is fitted into the frustum B, and through the diaphragm F there is a series of perforations, *g g*, arranged in a circle near its outer edge. The plug E is elongated or extended upwardly in the chamber I, being so constructed that it will come into contact with the under surface of the diaphragm F when turned or screwed into the frustum A. The lower side of the diaphragm is covered near its center with a thin coating of soft solder or Babbitt metal, against which the top of the plug comes as it is turned in, forming a perfect seat or gas-tight joint between the two parts.

From the foregoing it will be obvious to all conversant with such matters that when the body or case of the burner composed of the parts A B is turned onto the plug E until the top of the plug is brought into contact with the diaphragm F, the gas passing through the orifice J will be entirely shut off, and that when the diaphragm and plug are thus in contact if the case is unscrewed or partially turned off from the plug the gas will pass through the orifice into the chamber I, and from thence in the direction of the arrows through the perforations *g g* into the chamber H to be discharged through the slot D, the amount of gas passing to the tip depending upon the distance between the plug and diaphragm, as will be readily seen without a more elaborate description.

Thus it will be apparent that the burner has combined within itself not only a means of regulating the flow, but of entirely shutting off the gas, which is the primary distinguishing feature of my invention.

I am aware that a gas-burner has heretofore been constructed having a perforated diaphragm arranged horizontally in a case composed of two conical frustums united at their bases, and I do not, therefore, claim the same broadly.

I am also aware that in the Letters Patent granted to C. E. Ball, June 24, 1872, and number 140,108, a gas-burner is shown similar to mine, but differing in several essential features. I therefore do not herein claim anything shown or described in said Letters Patent when in and of itself considered; but

Having thus explained my improvement, what I claim is—

The frustums A B, diaphragm F, plug E, and tip C, combined and arranged to operate substantially as and for the purpose specified.

THOMAS HALEY. [L. S.]

Witnesses:
CHARLES SELDEN,
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