T. CLOUGH.

Gas Burner.

No. 104,271. Patented Jnne 14, 1870.

Fig. 1.

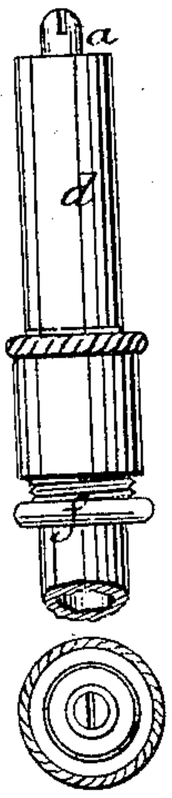


Fig. 2.

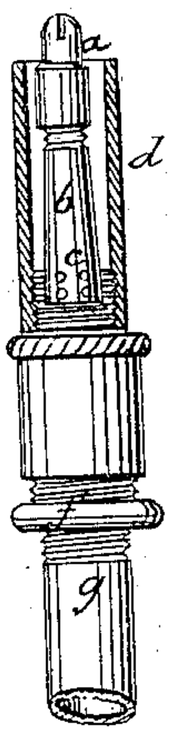
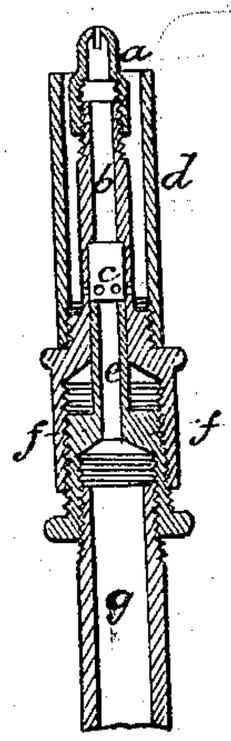


Fig. 4.

Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

THEODORE CLOUGH, OF DOBB'S FERRY, NEW YORK.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **104,271,** dated June 14, 1870.

To all whom it may concern:

Be it known that I, THEODORE CLOUGH, of Dobb's Ferry, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Air-Gas Burners; and I do hereby declare that the following is a full and correct description thereof, reference being had to the accompanying drawings, and to the letters of reference thereon.

My invention relates more particularly to burners for burning illuminating-gas made by saturating air with vapors of gasoline, commonly called "air-gas." It has been found that common bat-wing or fish-tail burners are not adapted to burning this gas as ordinarily made, owing to the variable density of the gas coming from the generating apparatus.

The object of my improvement is to adapt the slitted or bat-wing burner to the burning of air-gas.

Said improvements consist—

First, in perforating the base of the burner-tube with small holes or passages for gas to escape at the base of the burner, and surrounding the burner with a tube open at the top but closed at the bottom, and united to the burner below the perforations in the burner-tube. It is more convenient to screw the tube to the burner; but it may be attached in any suitable manner.

Second, in regulating the escape of the gas from the perforations at the base of the burner by a sliding tubular valve or cut-off, introduced into the burner-tube of the base and extending upward within it, the position of the tubular valve being regulated by a screw.

These improvements, by furnishing a regulated supply of gas outside of the burner, but directed to the tip of the burner by the surrounding tube, give steadiness and increased illuminating-power to the flame of the bat-wing burner, and make it a desirable burner for burning air-gas.

The drawings represent a bat-wing burner as improved by me.

Figure 1 represents an elevation of my improved burner attached to a short piece of gas-pipe; Fig. 2, a view showing the surrounding tube in section and the burner therein; Fig. 3, a vertical section through the burner and tube; Fig. 4, a transverse section through the base of the burner-tube.

Letter *a* represents the burner-tip; *b*, the burner-tube; *c*, perforations at the base of burner-tube; *d*, the surrounding tube screwed to base of burner-tube; *e*, the tubular valve, extending up in the burner-tube and operated by an annular screw, *f*, attached to the lower end. Said annular screw, besides having a screw to work in the base of the burner, has an internal screw, by which it and the burner are attached to the gas-pipe, as clearly shown in Fig. 3 and the other drawings, the gasway being through the annular screw and tubular valve to the burner.

As the burner is connected to the gas-pipe *g* by means of the annular screw, the adjustment of the gas escaping through the perforations of the burner-tube is easily made by turning the burner upon the annular screw.

I claim as my invention and improvement in air-gas burners—

1. The bat-wing burner perforated at the base, in combination with the surrounding tube, substantially as described.

2. Also, in combination with the bat-wing burner, perforated at the base, and surrounding tube, the tubular valve for regulating the supply of external gas to the burner, substantially as described.

THEODORE CLOUGH.

Witnesses:
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