

2 Sheets--Sheet 1.

I. W. SHALER.  
Gas-Burners.

No. 137,964.

Patented April 15, 1873.

Fig. 1.

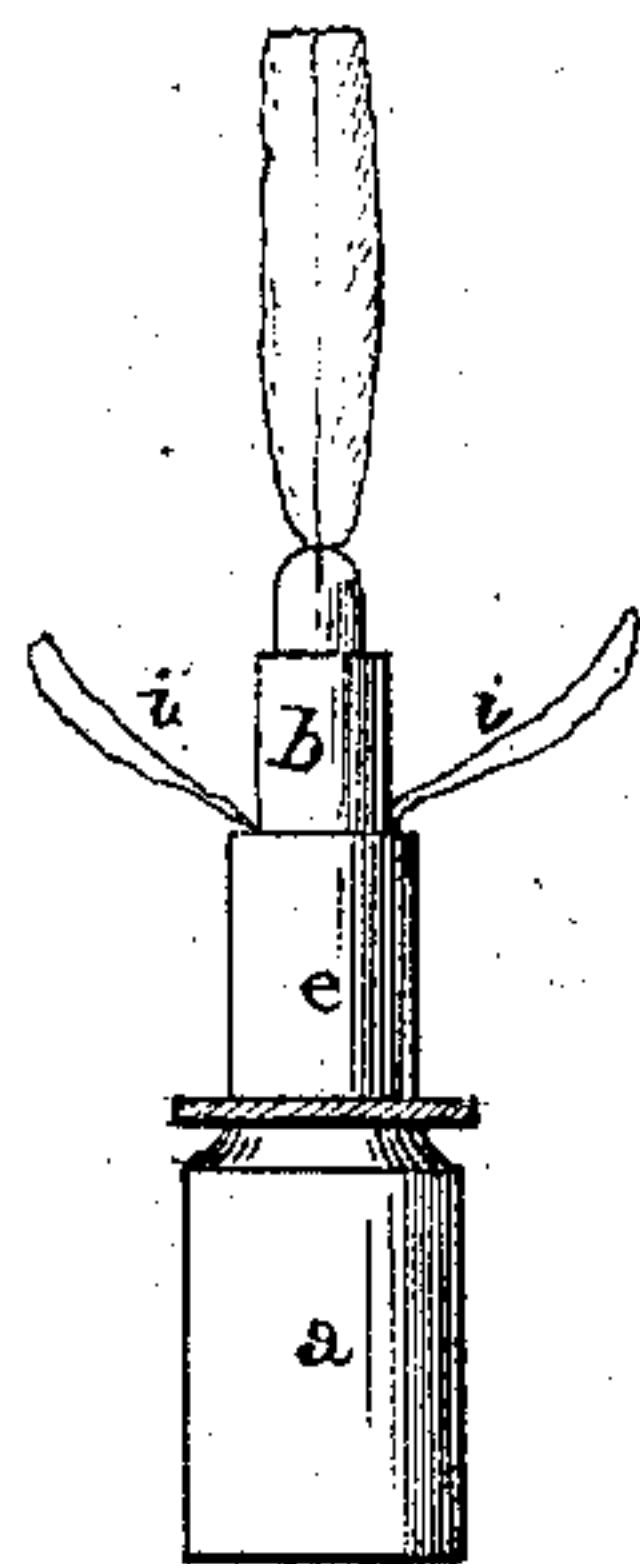


Fig. 2.



WITNESSES:  
Alex Davidson.  
W. R. Duhamel

INVENTOR  
I. W. Shaler  
Per H. S. A. H. A.  
att'y.

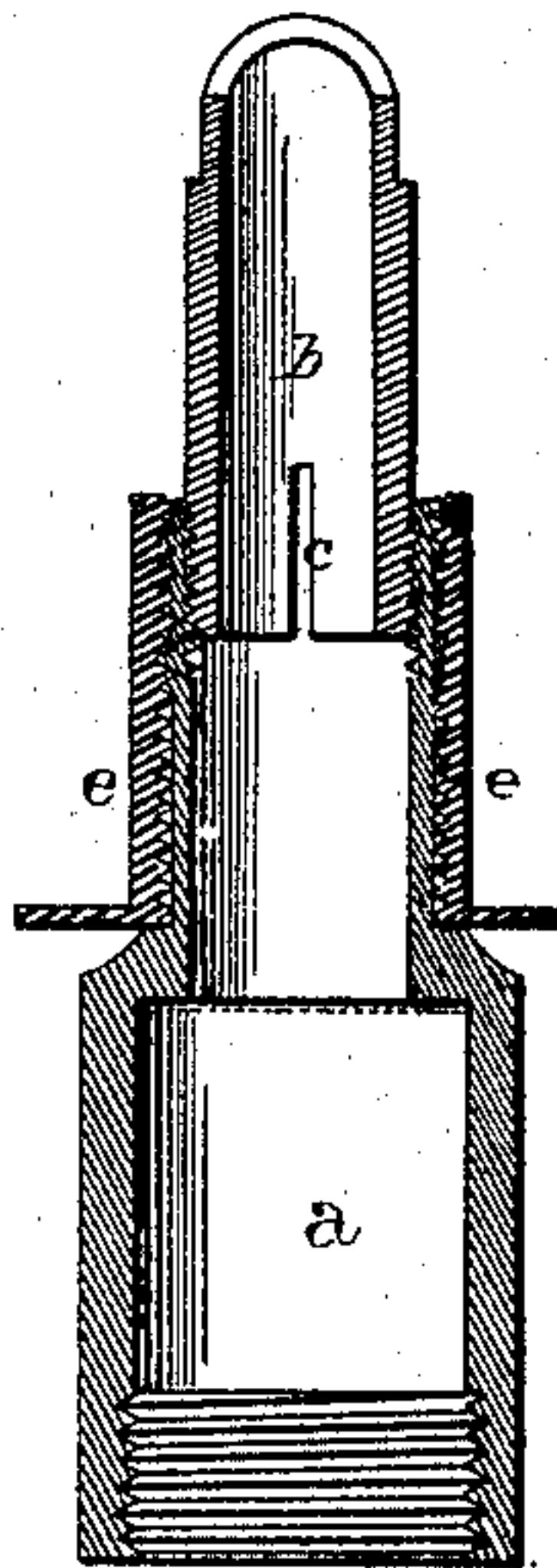
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Fig. 3.



WITNESSES.

*W. H. Duhamel*  
*Alex S. Davidson.*

INVENTOR.

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*Atty.*

# UNITED STATES PATENT OFFICE.

IRA W. SHALER, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **137,964**, dated April 15, 1873; application filed February 5, 1873.

*To all whom it may concern:*

Be it known that I, I. W. SHALER, of Brooklyn, county of Kings and State of New York, have invented certain new and useful Improvements in Gas-Fixtures, of which the following is a specification:

The nature of my invention relates to the construction of a gas-burner; and consists in making an aperture in the base of the tip, on each side of the flame, through which issues a small jet of gas, which when ignited heats the air as it ascends to the flame, and causes a perfect combustion to take place just at the point of the tip where the flame issues, and prevents the flickering of the flame; it also consists in an adjustable collar for regulating the size of the small jets, as will be more fully set forth hereafter.

Figure 1 represents a side elevation of my burner. Fig. 2 is a side view of the tip, showing the aperture. Fig. 3 is a sectional view.

*a* represents a pillar of ordinary construction, in the top of which is screwed the tip *b*. In the bottom of this tip, upon each side, at right angles to the slit through which the flame issues, are formed two slots, holes, or apertures, *c*, of any suitable kind, through which the two small jets *i* issue and extend upward toward the flame, heating the upward current of air before it reaches the flame.

The flickering of the flame is not produced, as is generally supposed, by the uneven pressure of the gas, but by the upward tendency of the heated atmosphere, causing an uneven temperature, in which the combustion takes place, and hence the flame is unsteady and flickers; but by heating the air before it reaches the flame the temperature is always kept even, and a perfect combustion of the gas takes place at the very point of the tip, causing not only a more brilliant, but a steady and even flame. Over the top of the pillar is screwed an adjustable collar, *e*, by which the size of the apertures is regulated, so that the jets *i* can be controlled at will. This collar also controls and regulates the angle at which the jets issue from the tip.

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

The pillar *a*, having adjustable collar *e*, in combination with the tip *b*, provided with the aperture *c*, substantially as shown and described.

In testimony that I claim the foregoing as my invention I hereunto affix my signature.

IRA W. SHALER.

Witnesses:

RD. A. HYDE,  
HENRY THORN.