G. W. TINSLEY.

Gas-Burner.

No. 163,118. Patented May 11, 1875.

Fig. 1.

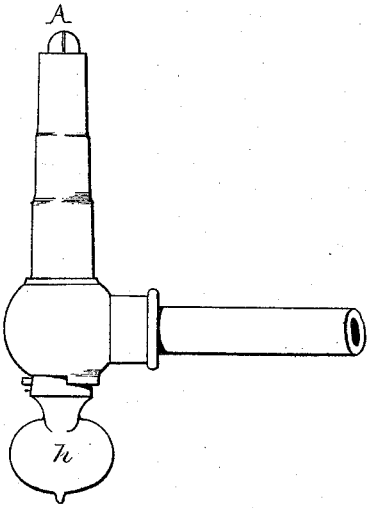


Fig. 2.

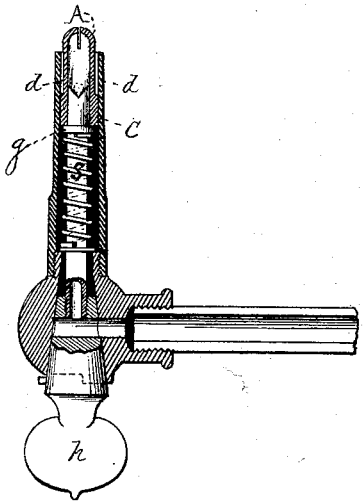


Fig. 3.

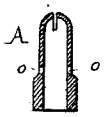


Fig. 4.

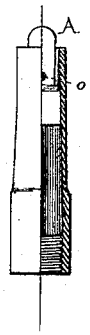
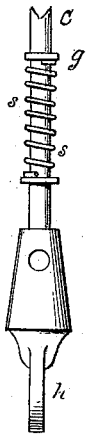


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. TINSLEY, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **163,118**, dated May 11, 1875; application filed October 16, 1874.

To all whom it may concern:

Be it known that I, GEORGE W. TINSLEY, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification:

The object of my invention is to produce a gas-burner which shall be readily adjusted to burn from one-half foot to twelve feet of gas per hour, to preserve the flat thin form of the flame when the key is partly turned, and at the same time secure perfect combustion of both rich and poor gases, and retain all the brilliancy of the best gas-flame under full pressure.

The second object of my invention is to provide a ready and convenient way for drawing off any condensation in the form of liquid that may accumulate in the pipe near the burner when gasoline-gas is used.

In the drawing, Figure 1 is a side view of an L-pendant with my invention attached. Fig. 2 is a vertical section; and Figs. 3, 4, and 5 are details.

The first object is attained by introducing into the burner A the tube C, which has two V-notches, *d d*, in the top, on opposite sides. The tube C, which is an elongation of the key *h*, as shown in Fig. 5, is so arranged and adjusted that when the cock is open the notches *d d* are in conjunction with or opposite to the side ports *o o* of the burner A. When the key is turned a little either way, the projecting sides or joints of the tube C partially close and decrease the flow of gas through the ports *o o*, while the full pressure and flow through the slit in the tip of the burner is maintained.

By this arrangement for regulating the flow of gas, the broad flat form and brilliant color of the flame is preserved regardless of the amount of gas consumed.

In gasoline-gas burners it is well known that if the slit in the tip is sufficiently large to pass the required amount of gas through it it will "blow." To overcome this difficulty, Maxim made a thin slit in the tip to pass just enough gas to expand the flame and the balance he passed through the ports *o o*. This arrangement was effective with a perfect quality of gas; but with carbureting-machines the gas will vary in quality from day to day. When a fresh supply of gasoline is introduced, and the air forced through it, the gas is too rich in carbon, and will smoke when burned in an open burner. This difficulty has heretofore necessitated the use of the argand-burner, which is expensive, with a chimney that is objectionable. To successfully burn this rich quality of gas in an open burner is the great object of my invention, and the difficulty experienced in the Maxim burner is overcome by my notched tube C, by the action of which the side ports *o o* can be partially closed without reducing the direct pressure on the slit in the tip, which secures a continued expansion of the flame, and a complete combustion of the richest gas.

The second object is attained by means of the collar *g* and spring *s*, which admits of the key *h* being partly withdrawn from its seat, as shown in Fig. 5, and for the purpose of removing any accumulation of liquid in the pipe. When set free the spring *s* forces the key *h* into place, and holds it in position.

I am aware that perforations have been made at the base of the burner, and the flow of the gas through them regulated by a tubular valve operated by a screw; but this is not my invention.

Having described my invention, I claim—

1. The key *h*, provided with the elongated tube C, constructed with the notches *d d*, in combination with the burner A, provided with the side ports *o o*, substantially as and for the purpose set forth.

2. In combination with the tube C, key *h*, and burner A, the collar *g* and spring *s*, constructed to operate as described, and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand.

GEORGE W. TINSLEY.

Witnesses:

JOEL HILL,

VERNON BELL.