

C. P. MILLER.

Gas Burner.

No. 33,258.

Patented Sept. 10, 1861.

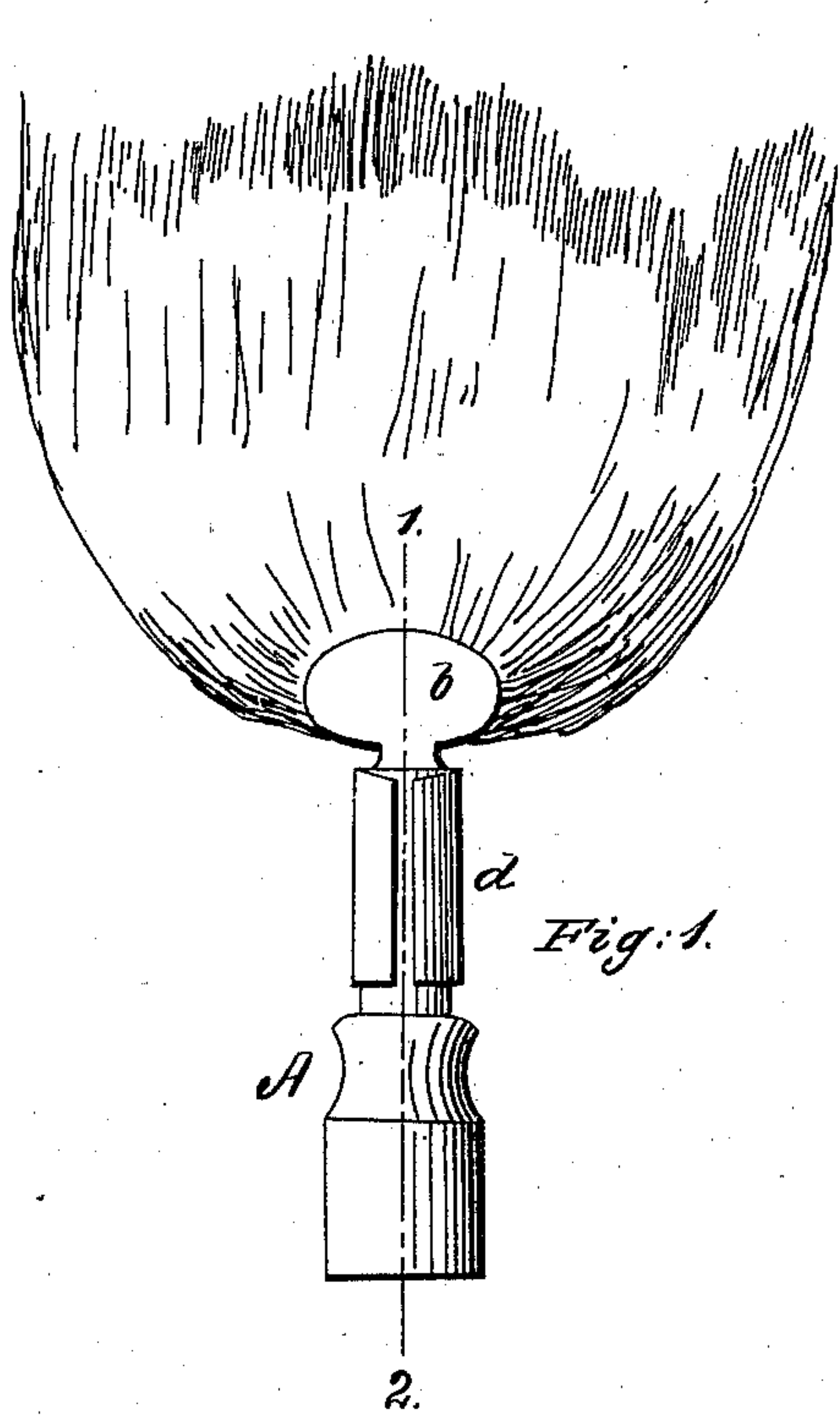


Fig. 1.

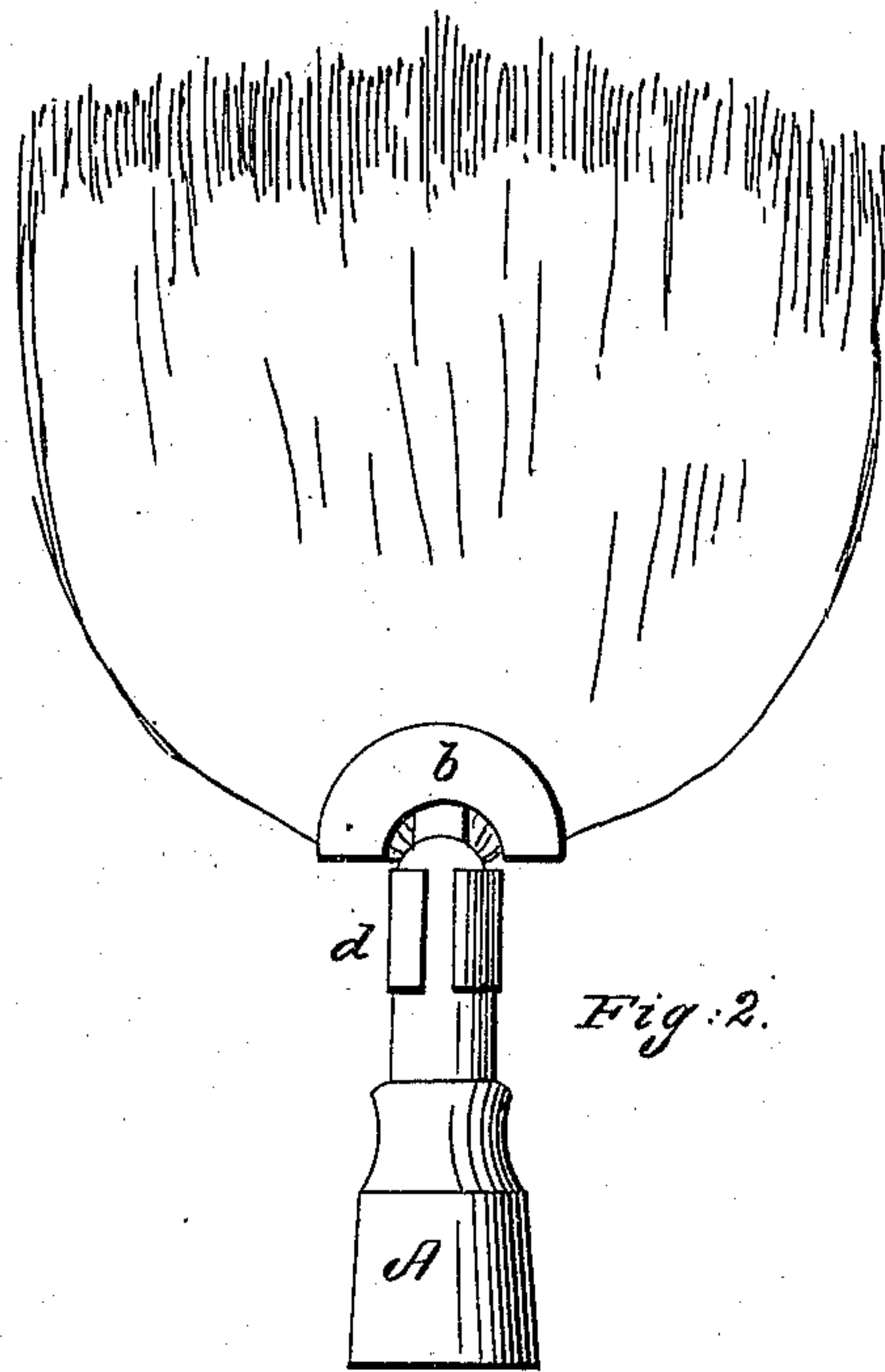


Fig. 2.

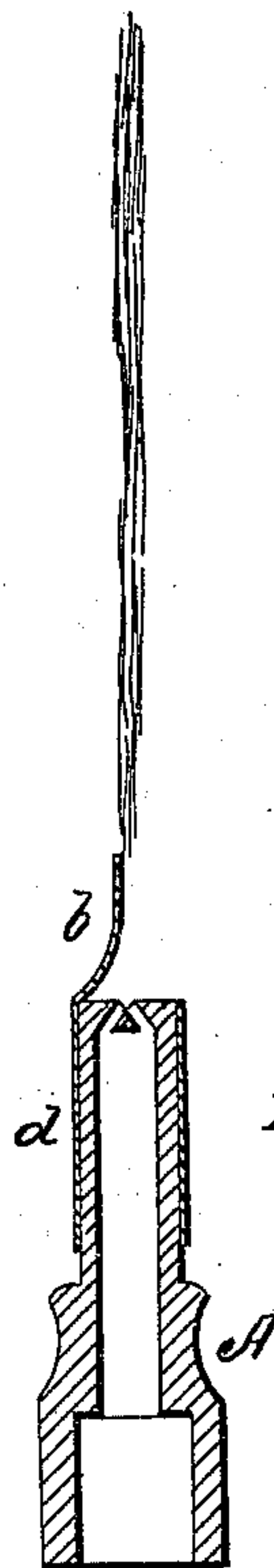


Fig. 3.

Witnesses:

Chas. Howson
Charles E. Foster.

Inventor:

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atty.

UNITED STATES PATENT OFFICE.

CHARLES P. MILLER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. 33,258, dated September 10, 1861.

To all whom it may concern:

Be it known that I, CHARLES P. MILLER, of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to a device, which I term a "flame-spreader," for preventing the escape of gas in an unconsumed state from the gas-burners in common use and for rendering the flame more steady, uniform, and brilliant; and my invention consists of a plate arranged on the burner in respect to the flame, as described hereinafter, for distributing the gas in a thin sheet, thereby allowing the oxygen of the air to have free access to every particle of gas, the plate at the same time furnishing air in a heated state to the flame, and thus insuring a more perfect ignition.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figures 1 and 2 represent different forms of my flame-spreader as applied to differently-constructed burners; Fig. 3, a vertical section on the line 1 2, Fig. 1.

A represents what is generally known as a "Scotch-tip burner," over the top of which is held by any suitable means the plate *b*, the said plate being in such a position that the gas escaping from the burner impinges upon it at a slight angle, as seen in Fig. 3. In the present instance the plate is connected to a split tube *d* of a proper size for embracing the body of the burner. The plate, however, may be cast to and form a permanent part of the burner. When a full head of gas is turned on, it rushes from ordinary burners in a wavering irregular stream and with a disagreeable noise, in which case it is impossible to obtain a light of a brilliancy proportionate to the amount of gas consumed, and when the gas is partially turned off, so as to

escape from the burner in a steady stream, the light is oftentimes so insufficient as to require the use of an additional burner. The wavering and flickering of the gas is occasioned by its being forced out in such a body that portions of it are not ignited until they have combined with the air, when a detonating mixture is formed, the explosion of which causes the noise and occasions much of the unsteadiness of the light.

By using my improvement a much greater amount of light may be obtained with the same consumption of gas, and a much stronger pressure be permitted without more gas being forced from the burner than can be immediately consumed.

By distributing the gas in a thin sheet every particle of it has free and immediate access to the air, which furnishes it with such a supply of oxygen as will insure a more perfect combustion than when the gas rushes out in a dense volume.

There is another advantage arising from the use of my gas-spreader. The air as it is drawn toward the burner is brought in contact with the back of the plate *b*, and is consequently furnished to the flame in a heated state, which causes a more perfect combustion of gas and thorough ignition of all its particles.

I do not desire to claim, broadly, a plate situated in contact with the flame of a gas-burner or lamp; but

I claim as my invention and desire to secure by Letters Patent—

The plate *b*, combined with a gas-burner and arranged on the same in respect to the flame, as set forth, so that the gas will impinge against one side of the said plate and be spread outward by the latter in a thin sheet, while the opposite side is exposed to the air, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES P. MILLER.

Witnesses:

HENRY HOWSON,
JOHN WHITE.