

(No Model.)

H. W. MERRITT.
Gas Burner.

No. 229,444.

Patented June 29, 1880.

Fig.1.

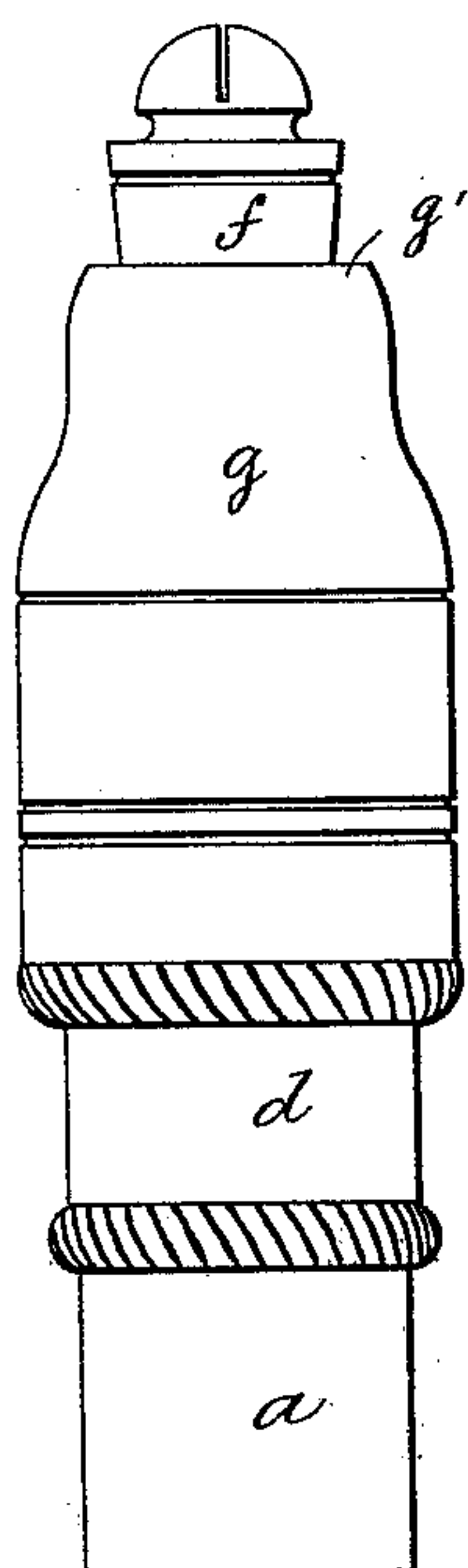
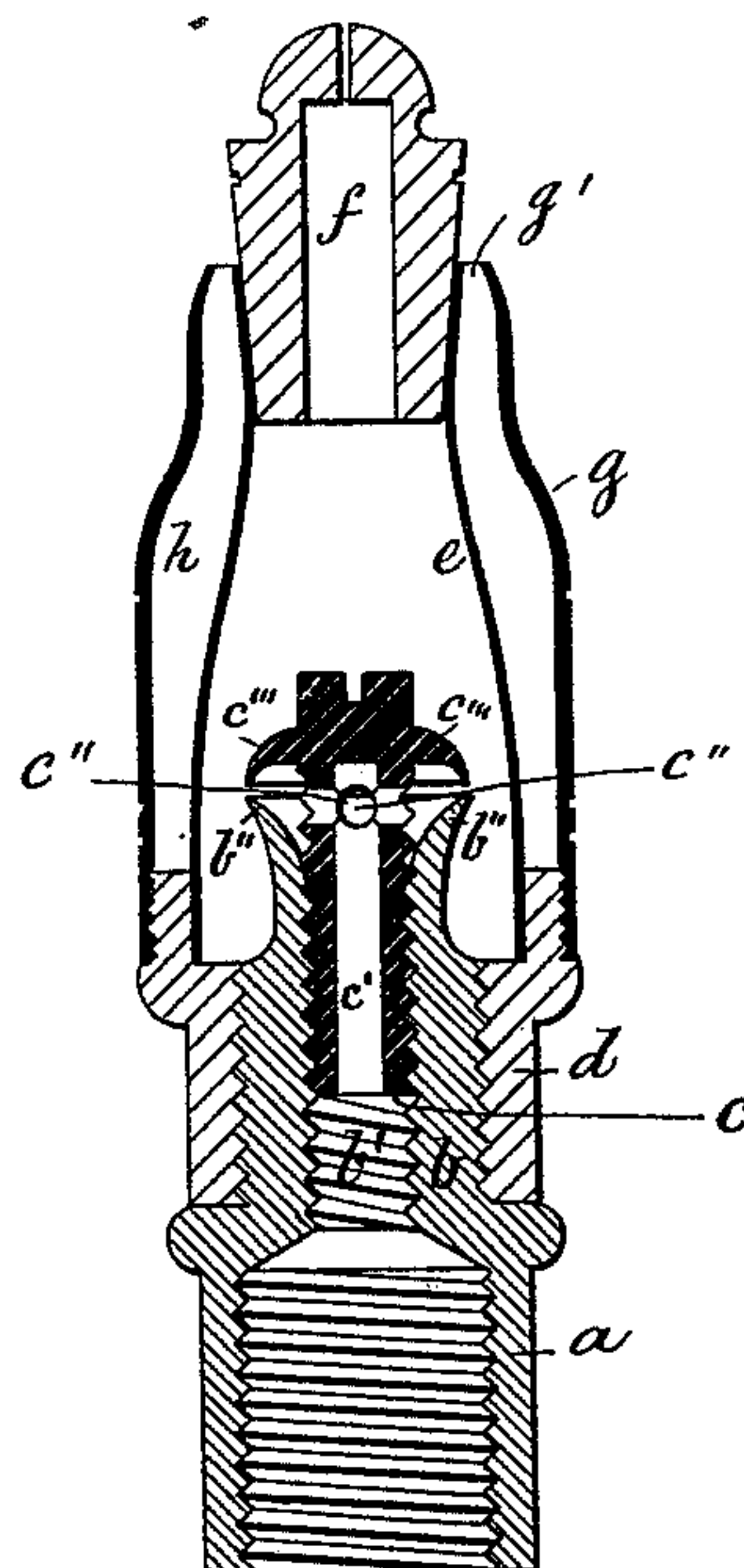


Fig.2.



Witnesses

Henry Chadbourne.
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Inventor:

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by
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UNITED STATES PATENT OFFICE.

HENRY W. MERRITT, OF SOMERVILLE, ASSIGNOR TO WILLIAM H. IRELAND,
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GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 229,444, dated June 29, 1880.

Application filed May 1, 1880. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MERRITT, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings; and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in gas-burners.

It consists, more particularly, in an improved and peculiarly-constructed regulating device located within the shell of the burner, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation, and Fig. 2 represents a central longitudinal section.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a is the screw-threaded base, as usual. It is extended upward and forms the internally and externally screw-threaded shank *b*, having central passage, *b'*, for the gas, as shown. The said shank terminates in its upper end with the flaring or trumpet-shaped mouth-piece *b''*, as shown in Fig. 2.

In the screw-threaded passage *b'* is screwed the regulating-screw *c*, which is externally screw-threaded and fits the internal screw-threads in the passage *b'*; and the regulating-screw *c* is further provided with a central channel, *c'*, which terminates at its upper portion in lateral apertures *c''*.

The regulating-screw *c* is also formed or constructed with an inverted concaved head, *c'''*, the outer depending edge of which is directly above the outer annular edge of the flaring mouth-piece *b''*, and is capable of adjustment toward and from the latter by screwing in or out the screw *c*.

In this manner the gas is caused to issue in an annular stream, and by reason of the peculiar construction described a very accurate and fine adjustment of the parts is possible, while the area of the lateral perforations *c''* remains unchanged—that is to say, the flow of gas through them is not interfered with—the entire regulation being effected by the outer annular edges of the head *c'''* and the flaring mouth *b''*.

The advantages of the trumpet-shaped mouth-piece *b''* are, first, that it allows the gas from the central passage, *c'*, to flow gently and gradually to the annular orifice between its outer edge and that of the inverted concave head, and thus prevent flickering and unsteadiness of the flame at the tip of the burner; and, secondly, it allows the regulating-screw *c* to be adjusted up and down, more or less, without reducing the exit-area of the lateral orifices *c''* *c''* beneath the head *c'''*, and thus prevents back-pressure and condensation of the gas within the regulator.

d is an annular screw-threaded sleeve fitting closely around the screw-threaded shank *b*, and provided, first, with the metallic tube or conductor *e*, to the upper end of which the lava or other tip *f* is secured, as shown.

g is an annular shield, secured in its lower end to the part *d*, as shown, and it serves as an anti-heat radiator for the conductor *e*, an annular air-chamber, *h*, being for this purpose left between the parts *e* and *g*, as shown.

g' is an annular opening at the upper end of the anti-heat radiator *g*, so as to allow free circulation of air within the latter.

Heretofore a gas-burner has been provided with a threaded screw provided with a head and arranged in the passage leading to the burner-tip; and therefore I do not claim, broadly, such arrangement; but,

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

The base *a*, having the shank *b*, constructed with the flaring annular mouth *b''* and the screw-threaded passage *b'*, in combination with the externally-threaded screw *c*, constructed at its upper end with the concaved

head c''' , and provided with lateral apertures c'' and vertical passage c' , substantially as shown and described, the outer edges of the said flaring mouth and the concaved head creating an annular lateral opening for the passage of the gas to the burner-tip, as and for the purpose described.

In testimony whereof I have affixed my signature in presence of two witnesses.

HENRY W. MERRITT.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBOURN.