W. H. RODGERS.

Gas Lighter.

No. 77,917. Patented May 12, 1868.

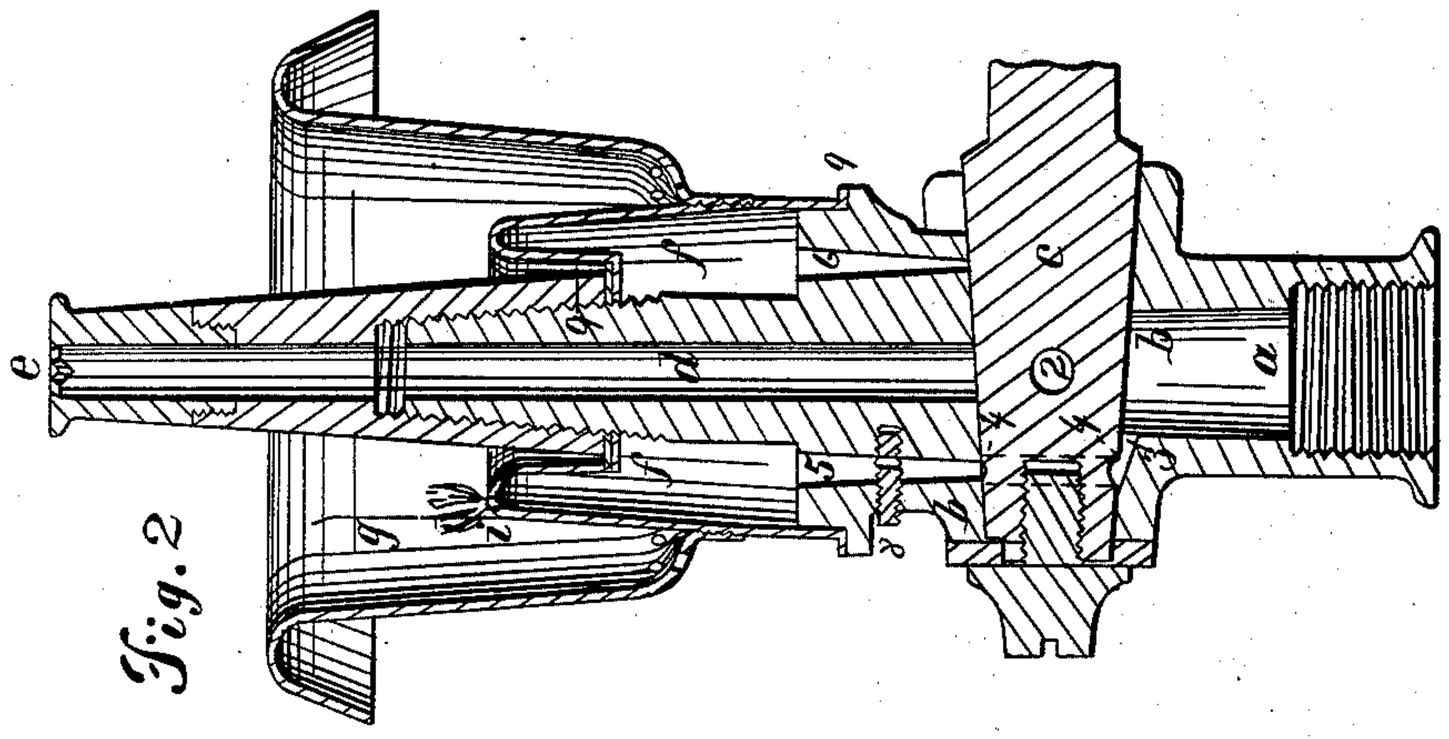

Fig. 2

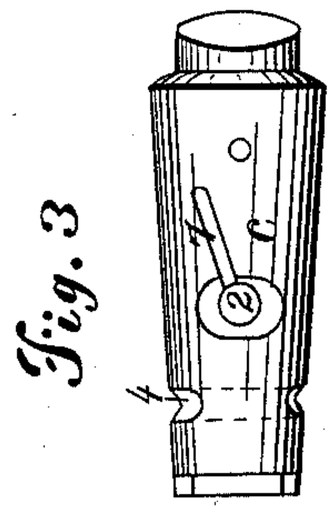

Fig. 3

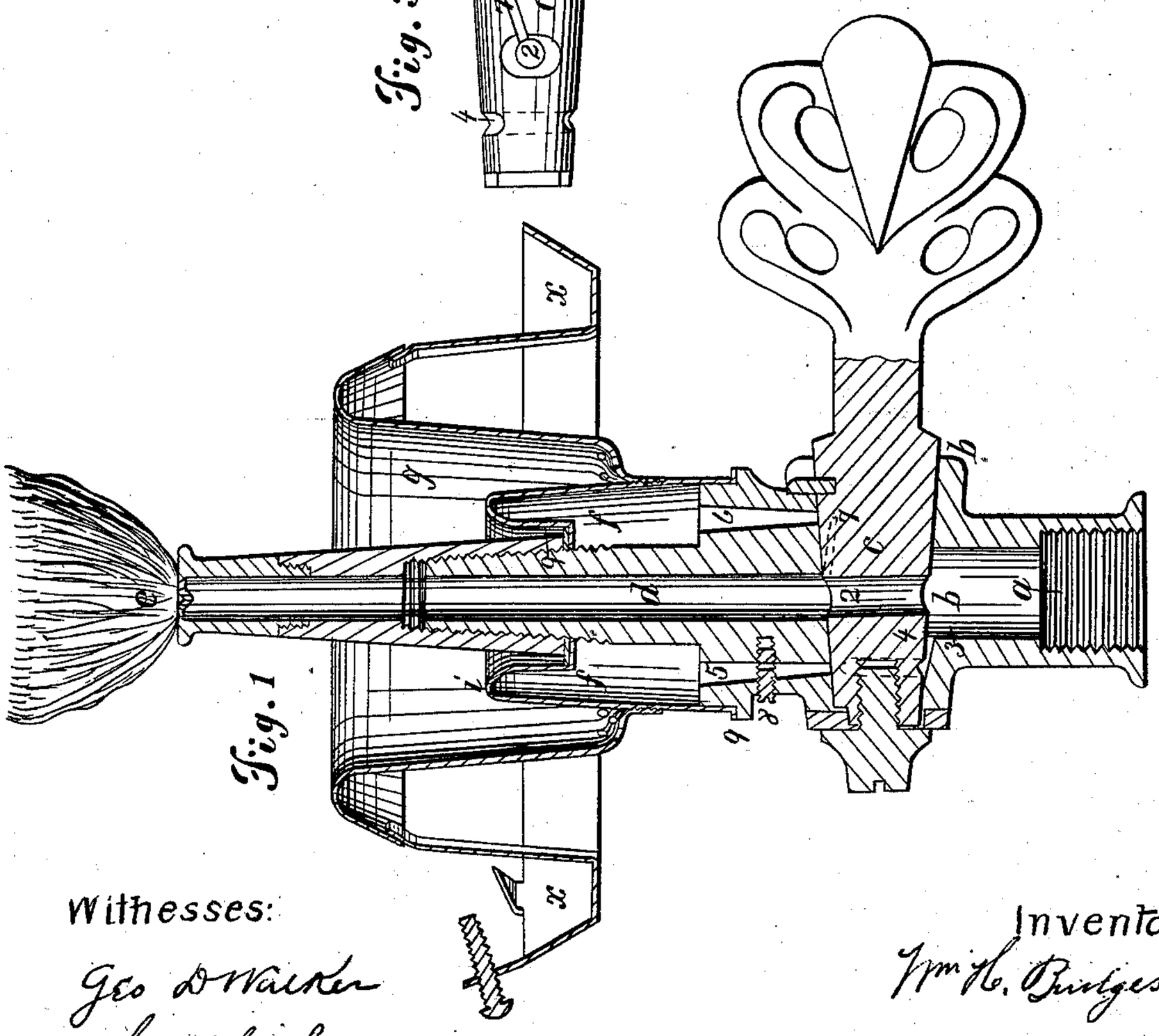

Fig. 1

Witnesses:

Geo D Walker

Chas H Smith

Inventor:

Wm H. Burgess

United States Patent Office.

WILLIAM H. RODGERS, OF BROOKLYN, NEW YORK.

Letters Patent No. 77,917, *dated May* 12, 1868.

IMPROVEMENT IN GAS-BURNERS,

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM H. RODGERS, of Brooklyn, (E. D.,) in the county of Kings, and State of New York, have invented, made, and applied to use, a certain new and useful Improvement in Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a vertical section, of about twice the usual dimensions, of a gas-burner, with my improvement in position for supplying gas to the usual flame.

Figure 2 is a similar view, in position for supplying gas to the small igniting-flame, and

Figure 3 is a perspective view of the plug of the cock, detached.

Similar marks of reference denote the same parts.

Gas-burners have before been made in which a small jet is allowed to burn continuously, and this ignites the main jet, when the gas for the same is turned on, but this small jet makes the burner very hot, in consequence of being confined, and coming into contact with the conducting metal of said burner; besides this, the small flame below the large flame produces a movement in the air that tends to disturb the burning of the main flame. The long tube to this small jet quickly becomes filled with dirt, and the burner is blackened with smoke.

The nature of my said invention consists in a gas-burner provided with an igniting-jet in combination with a cock that is constructed so that when the main jet is burning the igniting-jet shall be extinguished, and when the cock is turned to extinguish the main jet, the gas shall first be passed through the small igniting-jet, in order that that may be lighted, to continue a flame that shall in turn light the main jet, when the cock is turned for that purpose, and for extinguishing the igniting-jet.

In the drawing, *a* is the screw of the burner, to connect with any usual pipe; *b* is the barrel, and *c* the plug of the cock; *d* is a pipe to the ordinary burner *e*, and *f* is a chamber, with a small opening, *i*, for the igniting-jet.

g is a cup or surrounding shield, to prevent currents of air blowing out the small jet, *i*. The edges of this cup may be extended as arms to a ring, *x*, for holding a glass or globe.

2 is the main gas-way of the plug *c;* 3 is a slot, allowing gas to pass (from *a*) to the groove 4, that runs nearly around the plug *c;* 5 is a hole, communicating to the chamber *f;* 6 is a second hole to the chamber *f*, and 7 is a diagonal slot from the gas-way 2 on the surface of the plug *c*.

When the gas-way 2 is crosswise, as seen in fig. 2, the gas passes along the slot 3 around the plug *c* in the groove 4, and, by the hole 5, to the jet *i*, and the size of this jet *i* may be regulated by a perforated screw-plug, 8, acting as a cock.

When the plug *c* is turned to light the jet *e*, the gas is allowed to pass thereto before the plain surface of the plug at the ends of the groove 4 closes the hole 5, as seen in fig. 2; hence the main jet *e* is lighted from the jet *i* before the latter is extinguished.

When the cock is turned to shut off the jet *e*, before the hole 2 comes crosswise of the main gas-way, the end of the diagonal slot 7 has coincided with the hole 6, allowing a sudden and full supply of gas to pass into the chamber *f*, and jet out at *i*, to be ignited by the main jet *e*, and the further turning of the plug *c* closes the pipe 6, allowing the supply to the jet *i* only to continue through the slot 4.

The regulating-screw or cock 8 allows the supply of gas to the jet *i* to be regulated according to the pressure, and the slots 3 and 4 hence can be sufficiently large to prevent their being obstructed by dirt or grease.

Non-conducting washers at 9 9 aid in keeping the burner cool.

What I claim, and desire to secure by Letters Patent, is—

1. The cock *c*, formed with the gas-ways 2, 4, and 7, in combination with the opening 3, and pipes 5 and 6, to supply gas to the chamber *f* and jet *i*, when the jet *e* is extinguished, the parts being arranged and acting substantially as and for the purposes set forth.

2. The regulating-screw or cock 8, in combination with the jets *i* and *e*, as and for the purposes set forth.

In witness whereof, I have hereunto set my signature, this twentieth day of November, A. D. 1867.

WM. H. RODGERS.

Witnesses:

CHAS. H. SMITH,

GEO. D. WALKER.