

E. P. RUSSELL.

Gas Lighter.

No. 84,768.

Patented Dec. 8, 1888.

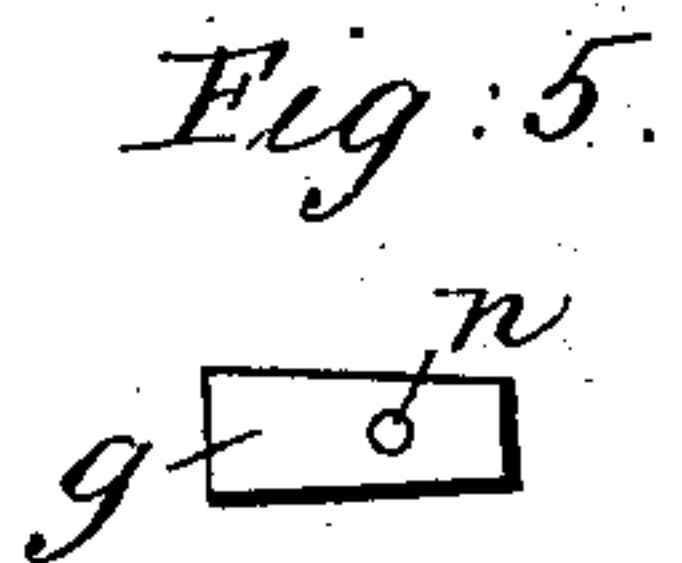
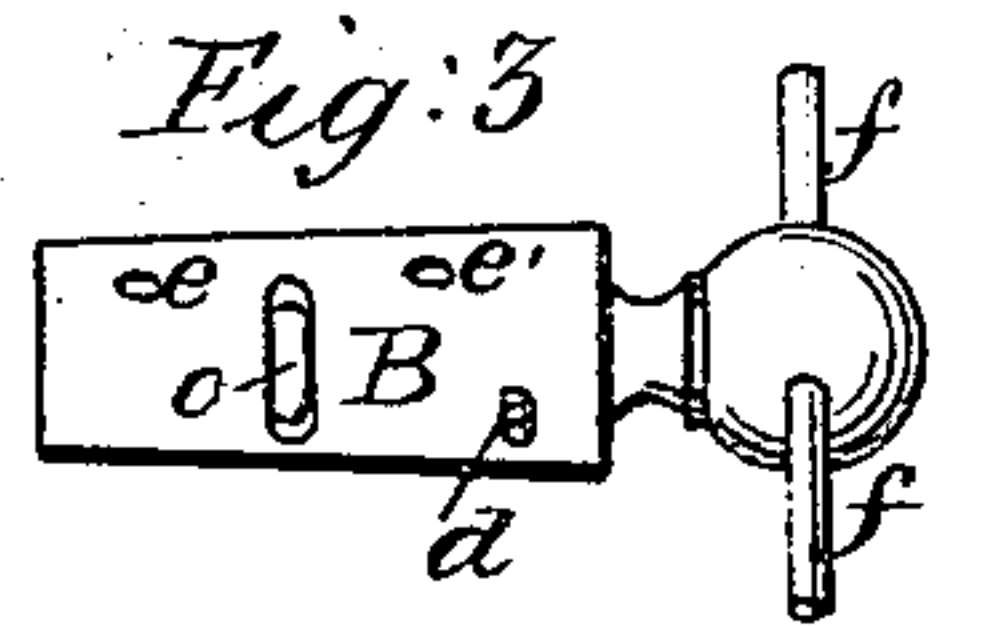
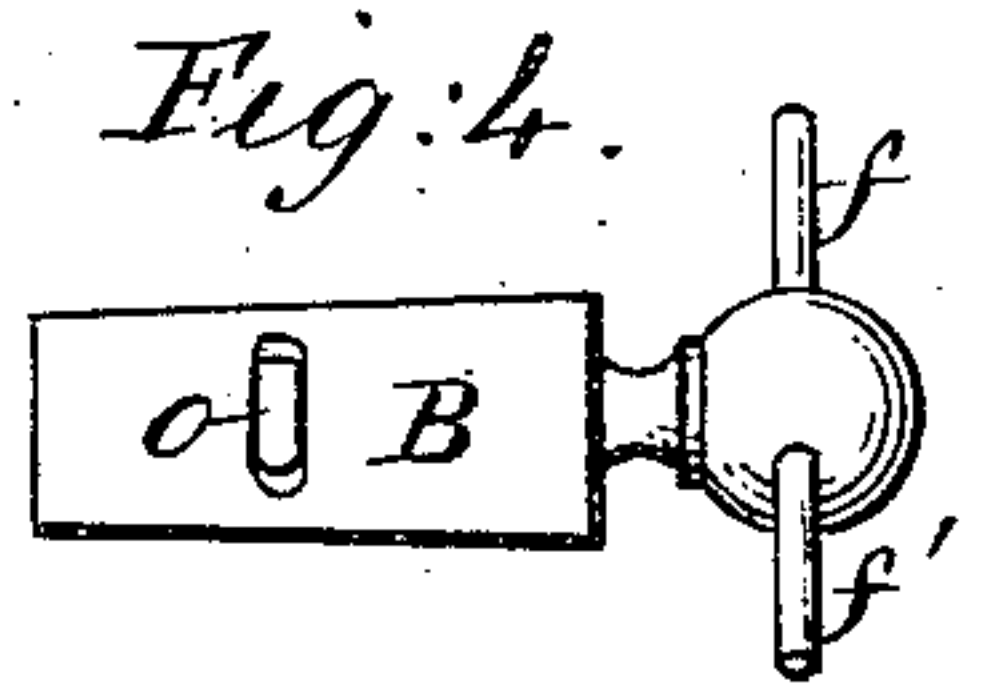
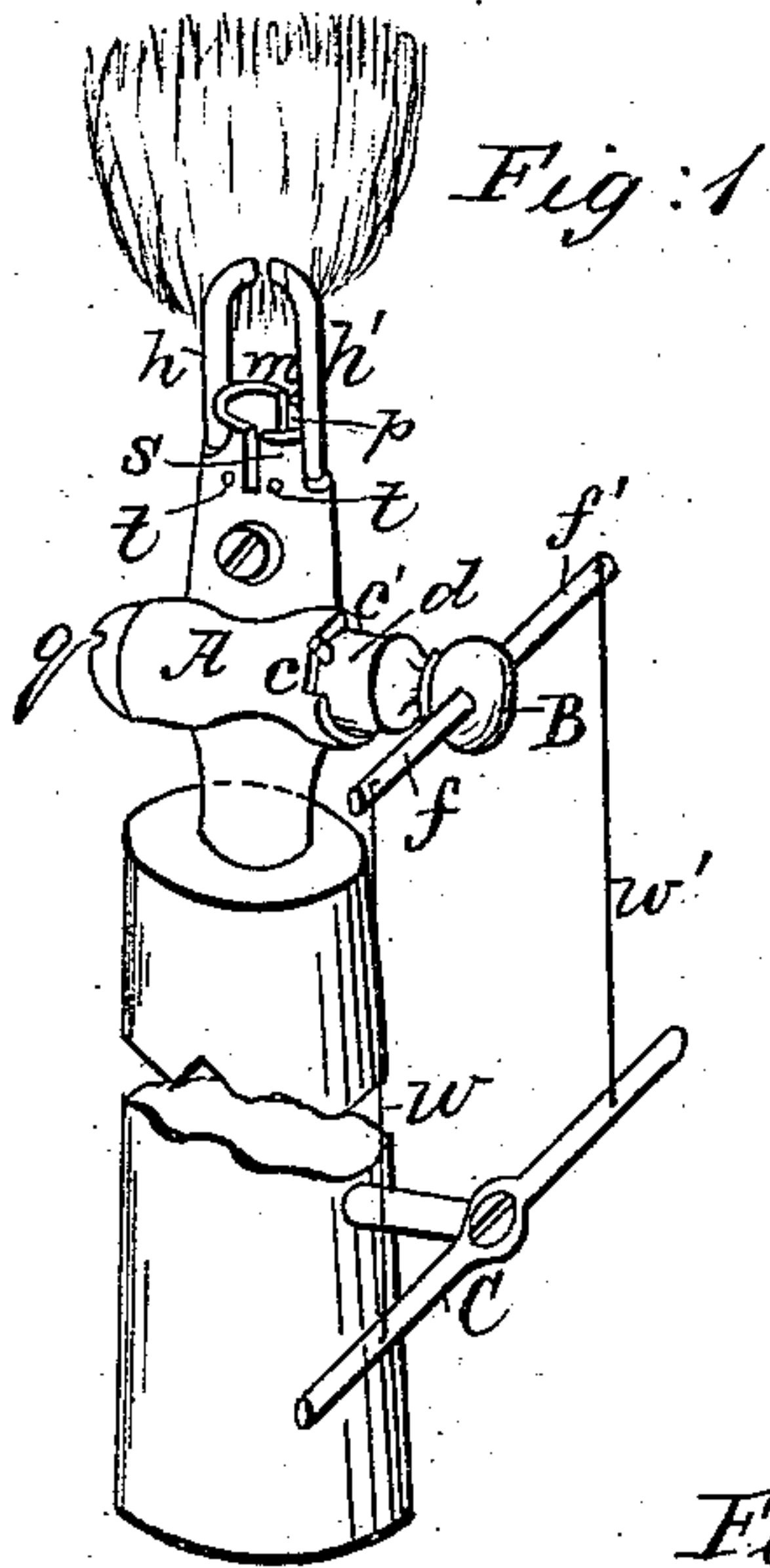
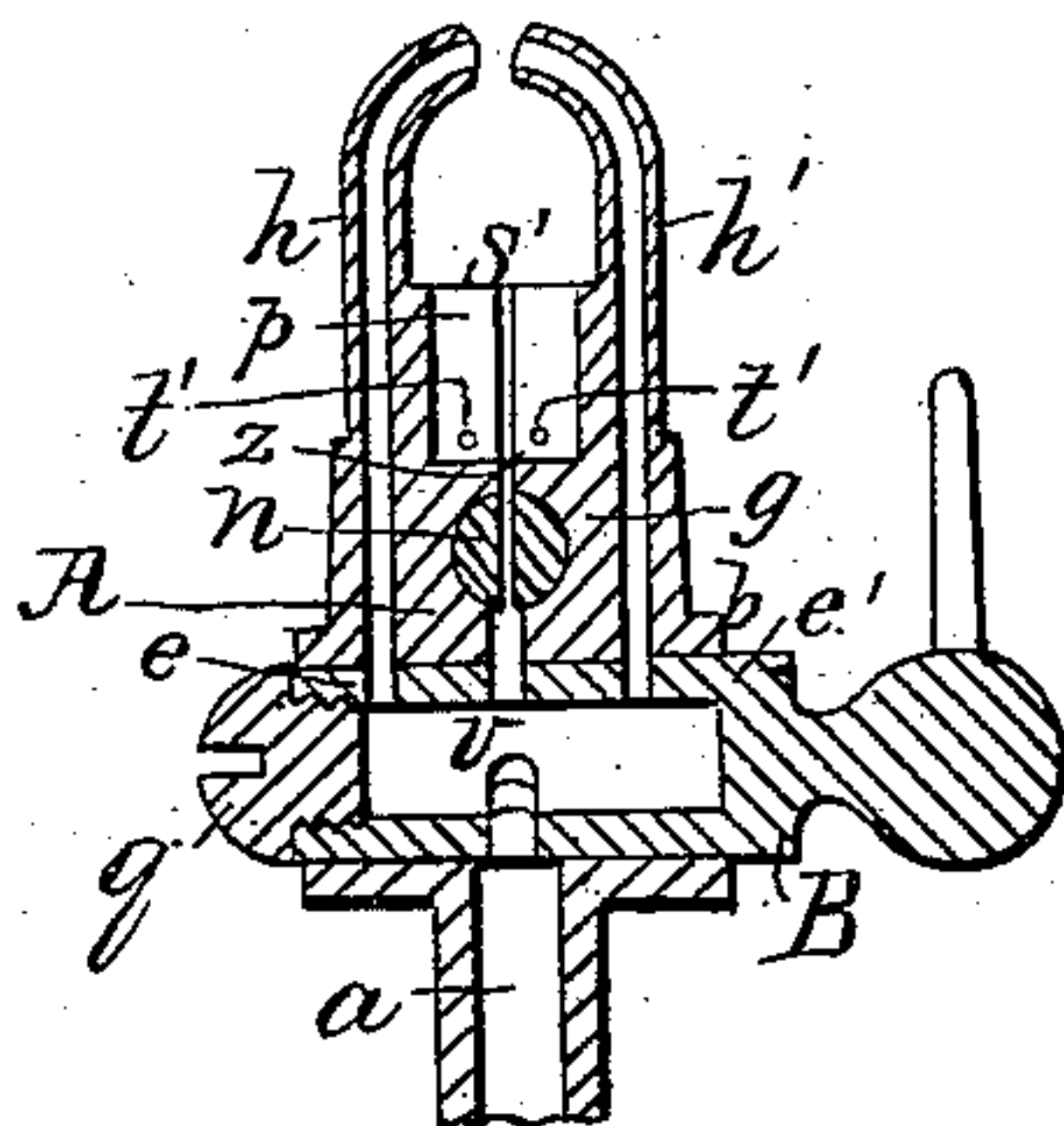


Fig: 2.



Witnesses.

N. D. Smith.
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Inventor.

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United States Patent Office.

EDWIN P. RUSSELL, OF MANLIUS, NEW YORK.

Letters Patent No. 84,768, dated December 8, 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, EDWIN P. RUSSELL, of the town of Manlius, in the county of Onondaga, and State of New York, have invented a certain new and improved Gas-Lighter and Burner; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, which form a part of this specification, wherein—

Figure 1 is a perspective view.

Figure 2 is a perpendicular sectional view, showing each of the gas-tubes.

Figure 3 is a front view of the main gas-cock.

Figure 4 is a rear view of the same.

Figure 5 is a small gas-cock, for feeding and gauging the jet-lighter.

Similar letters represent corresponding parts wherever they occur, and the whole may be made of brass or any other suitable metal.

The nature of my invention consists in making a hollow cylindrical cock, to retain the gas, and to distribute it, the perpetual jet, and main burners, and in the combination of the pipes to the jet and main burners, and regulating-cock to jet-burner, and chamber for protecting jet, with the hollow cock; also, the manner of letting on and off the gas, by means of sway-bars and braces, as hereinafter more fully set forth.

A is a gas-tube, with the necessary female parts, for the main cock to regulate the flow of gas, and the small cock, to regulate the jet-lighter.

I make the aperture *a* of ordinary size and shape for conveying the gas up into the main cock B; and I make the female part, *b*, for the main cock B of the proper size therefor, and with the usual conical taper; and it is also made with a slot and the shoulders *c c'*, for the stop *d*, on the side of the main cock B, to play in and against.

The body of the main cock B is made conical, to fit the female part *b*, and hollow, so as to form a chamber for gas to be distributed to the main burner and the jet-burner.

o o' are slots in the body of the main cock B, cut far enough, so that through them, at all times, the jet-burner is supplied with gas.

e e' are the holes in the main cock B, for the gas to pass to the main burners.

The main cock B is held in place, and loosened or tightened, by a screw, *g*, or any other ordinary device.

f f' are arms, which operate as levers to turn the gas on or off.

V is a small hole, to carry the gas from the main cock B up to the hole, *n*, through the small cock *g*.

The female part for the small cock *g* should be made

at right angles with the other female part, so as not to interfere with the tubes to the main burner.

h h' are tubes for the main burner, the tips of which come nearly together at the top, so as to commingle the flame in the ordinary way.

I make the small cock *g* to fit the female part designed for it, and with the hole *n*, through which the gas will pass, towards the jet-burner.

z is a small hole, leading from the hole, *n*, in the small cock, to the jet-burner.

Between the tubes, *h h'*, for the main burner, I make a hollow cylindrical chamber, *p*, for the protection of the jet-burner, and properly ventilate the same by means of small slots, *s s'*, opposite each other, and small holes, *t t* and *t' t'*, near the lower ends of the slots.

A jet-lighter, *m*, is thus formed at the top of the small hole, *z*, within the chamber *p*, and by this arrangement a very small flow of gas can be regulated, for the jet-burner to be kept burning constantly, by means of the small cock *g*, and the same will be substantially protected from being blown out by the hollow chamber *p*, and then, when the gas is turned upon the main burner by means of the main cock B, they will be readily lighted from the jet-burner.

The main cock B, for ordinary purposes, will be operated by the arms *f f'*, or by an ordinary thumb-piece; but, when the burner is used for street-lamps, or other elevated positions, for convenience in turning the gas on or off, I use the sway-bar C, properly adjusted, as may be desired, with connecting-rods or parts W W' attached to the arms *f f'*, and made so that the arms and sway-bar will operate together.

Instead of the slots *o o'* being cut clear through into the inner hollow chamber, there may be a small surface-slot, with holes leading thereto, as may be found necessary.

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

1. The hollow cylindrical gas-cock B, constructed substantially as described, and operating as and for the purposes set forth.

2. The combination of pipes *h* and *h'*, pipe or hole *z*, and small cock *g*, chamber *p*, all as constructed, with the gas-cock B, substantially as described, and for the purpose set forth.

3. The sway-bar C, in combination with rods W W', arms *f f'*, for operating the cock B, constructed substantially as described, and for the purposes set forth.

E. P. RUSSELL.

Witnesses:

N. B. SMITH,

C. W. SMITH.