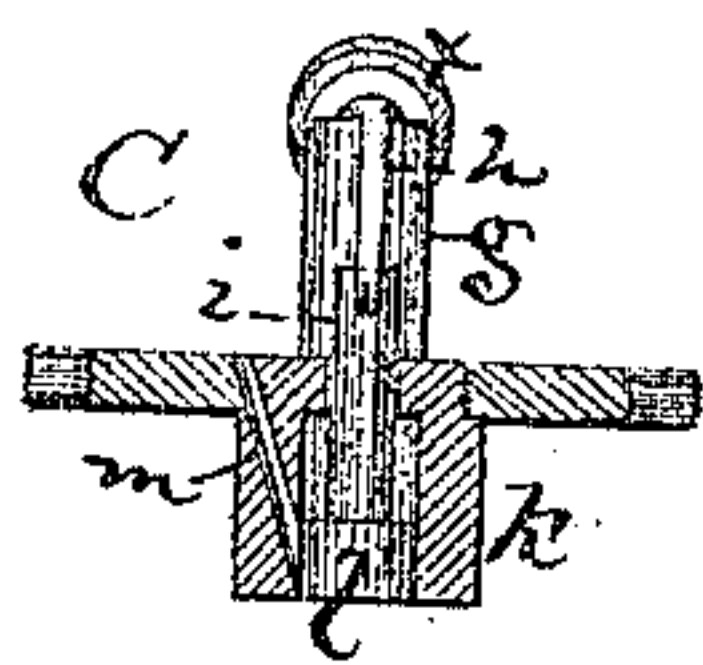
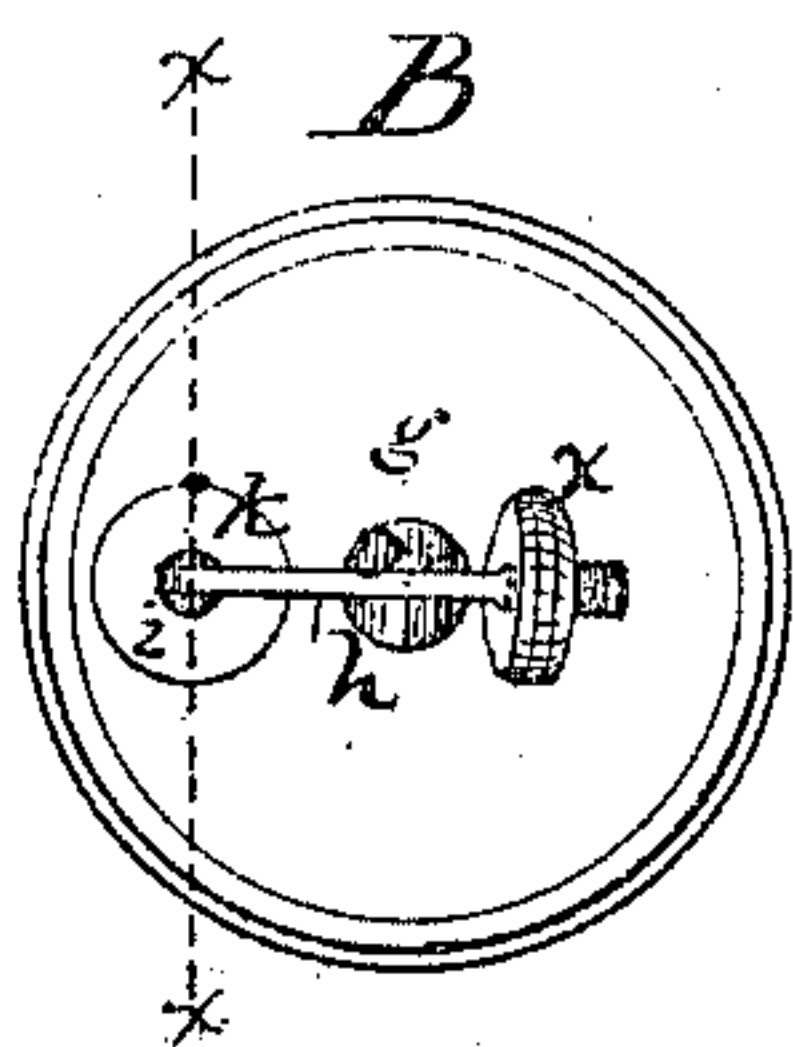
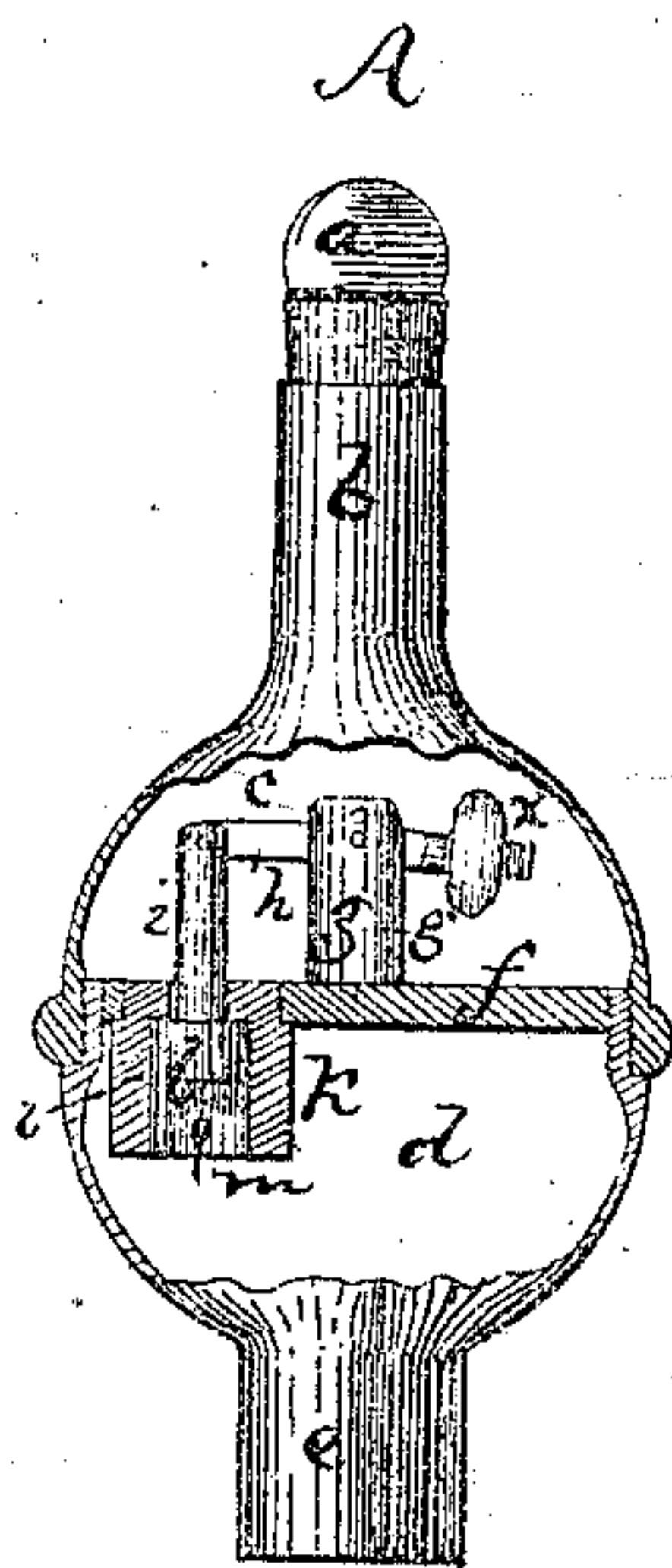


WILLIAM JONES.

Improvement in Gas Regulators.

No. 120,882.

Patented Nov. 14, 1871.



Witnesses  
S. B. Hedges  
L. H. Latham

Wm Jones,  
by his Attys  
Crosby & Gould

# UNITED STATES PATENT OFFICE.

WILLIAM JONES, OF CHELSEA, MASSACHUSETTS.

## IMPROVEMENT IN GAS-BURNER REGULATORS.

Specification forming part of Letters Patent No. 120,882, dated November 14, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM JONES, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented an Improved Regulator for Gas-Burners; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In burning illuminating gas, particularly in cities and large villages where gas is used for lighting streets as well as for general illuminating purposes, the pressure upon the gas necessary for the great consumption during the hours in which gas is very generally burned is kept up more or less after such hours, and the consequence is that at all burners which are lit in the early hours of the evening and are kept burning the pressure increases as the more general consumption ceases, and more gas is consumed than is needed or than is useful in producing a given amount of illumination. Various contrivances have been devised for regulating this excess of pressure upon late-burning gas-burners, so that, while the amount of gas consumed by them shall be according to the pressure, extra pressure shall not induce a corresponding consumption and waste of gas. Most of these pressure-regulators for burners depend upon the action of or pressure upon a diaphragm made of caoutchouc or a compound thereof introduced into a chamber made below the burner. In my invention I use, on the contrary, a solid plug-valve hung upon a lever, this valve working in a tube that forms the passage for the gas, and enabling the gas to flow freely around it and up into an upper chamber connecting with the jet-orifice when the ordinary pressure is upon the burner, and being pressed up and closing the tube when the pressure increases, leaving, however, an auxiliary passage at one side of the tube, through which auxiliary passage the gas flows in quantity sufficient to give the same, or about the same, flame given by the burner before the pressure increased and the plug-valve arose. It is in such a construction that the invention consists.

The drawing represents a burner embodying my improvement.

A shows the burner in central section. B is a plan of the valve-lever, &c. C is a section on the line *x x*.

*a* denotes the gas-tip affixed to the top of the burner-tube *b*. This tube *b* opens out of a chamber, *c*, which forms the upper half of a cup having a lower chamber, *d*, into which the inlet-tube *e* enters, a metal partition, *f*, separating the two chambers. On top of this partition is a pillar, *g*, in which is pivoted a lever, *h*, one end of which may be weighted by an adjustable weight, *x*, while to the other end is jointed a stem, *i*, which passes through the partition into a tube, *k*, beneath the partition, there being at the bottom of the stem *i* a valve, *l*, which normally hangs, as seen at C, and allows free passage of the gas around it and around the stem up into the chamber *c*, from which it escapes at the tip. At one side of the tube is another passage, *m*, independent of the valve-passage, but leading from the chamber *d* up into the chamber *c*; and when, by increased pressure of the gas, the delivery of gas at the burner increases, the undue pressure forces up the valve and closes the tube, but, at the same time, opens or leaves open the passage *m*, which auxiliary passage supplies the gas necessary to produce the requisite flame. In this manner the waste of gas is automatically prevented and the flame automatically regulated.

By adjusting the weight *x* upon the lever it may be located in position in accordance with the amount of pressure at which it is desirable that the valve should close.

The construction is simple and enduring, and the operation effective in economizing the consumption of gas.

I claim—

A gas-burner regulator having the main and auxiliary gas-passages arranged and controlled substantially as described.

WM. JONES.

Witnesses:

FRANCIS GOULD,  
M. W. FROTHINGHAM.

(64)