J. GILFILLAN.

Gas Burner.

No. 24,932. Patented Aug. 2, 1859.

Fig. 1.

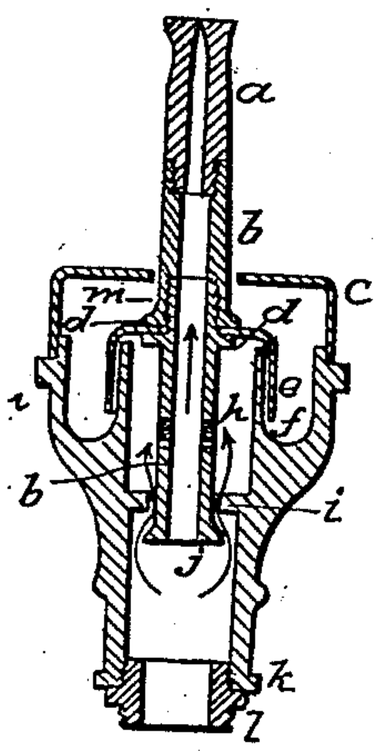
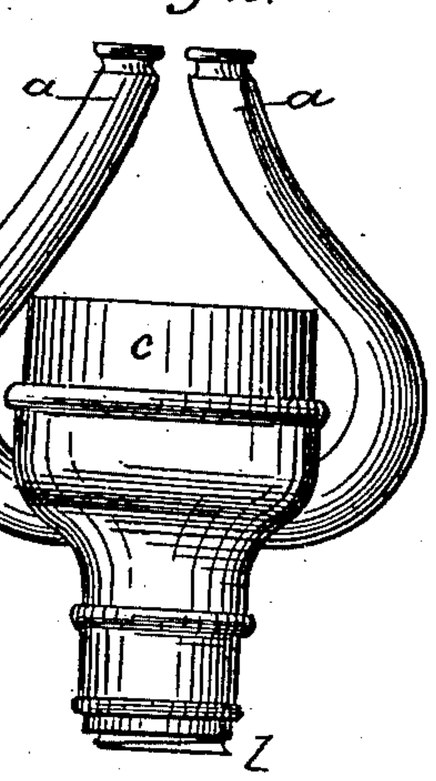


Fig. 2.



UNITED STATES PATENT OFFICE.

JAMES GILFILLAN, OF HARTFORD, CONNECTICUT.

GAS-BURNER.

Specification of Letters Patent No. 24,932, dated August 2, 1859.

To all whom it may concern:

Be it known that I, JAMES GILFILLAN, of Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Gas-Burners; and I do hereby declare that the same is described and represented in the following specification and drawings; and to enable others skilled in the art to make and use my improvement I will proceed to describe its construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

The nature of this improvement consists in its peculiar construction and adaptation for an automatic regulating burner.

In the accompanying drawings Figure 1, is a section view, showing the manner of its construction. Fig. 2, shows the manner of applying two burners in the place of one (as shown in Fig. 1) concentrating two flames into one.

a is a burner nipple, now in common use.

b, is a tube made in two parts each having a collar *d*, *d*, and a screw *m*, by which the two are fastened together, and into the upper end of which the burner nipple *a*, is secured.

n, is the body of the burner.

l, is a nipple secured in the lower end by a screw *k*, and in most cases it will be entirely unnecessary, as the screw may be cut directly upon the lower part of the body of the burner. Said nipple, or screw is to secure the burner in place, to the chandelier or bracket.

i, is the valve-seat, or opening through which the gas is admitted into the chamber *g*, thence into the burner tube *b*, through the holes *h*, or into the side tubes *o*, instead of the tube *b*.

j, is a valve on the lower end of the tube *b*.

e, is a compression chamber, fitted onto the tube *b* between the flanges *d*, *d*.

f, is a channel of sufficient depth to receive the full depth of the rim of the chamber *e*.

c, is a cap fitted onto the top of the body of the burner *n*.

I have thus described the construction of my improvement. To show the operation thereof, the burner is first secured in place where it is desired to be used, the cap *c* is removed and the channel *f*, is filled with mercury, and the cap again replaced, when the gas may be let on and lighted in the usual manner. Now it will be clearly seen that it is only necessary to select a nipple, tested to burn, or give the required flame, or light, or a given quantity of gas per hour, to secure against a greater amount thereof, passing through the burner, by the increase or variation of the pressure of gas in the pipes, or in other words, to secure a uniform pressure and flame. Because as the pressure in the pipes increases the pressure lifts the chamber *e*, thereby closing or opening the valve *j*, more or less according to the amount of pressure from the gas. The mercury meanwhile serving to prevent the escape of gas, and allow of a free action of the chamber *e*, up or down therein.

Thus I am enabled to produce a self regulating burner, giving a required flame or light as may be required by a given size nipple. I believe I have thus shown and described the operation and advantage derived by my improvement over others now in use.

I claim—

The improvement in gas burners herein described consisting of a central exit tube supplied with apertures surrounded by the gas chamber having its discharge regulated by the mercury cap the upper end of said pipe being furnished with a nozzle or jet burner the whole constructed and operating substantially as set forth.

JAMES GILFILLAN.

Witnesses:

EDWARD M. BLISS,

JEREMY W. BLISS.