J. J. KENNEVAN.

Automatic Pressure-Regulator.

No. 206,248. Patented July 23, 1878.

Fig. 1.

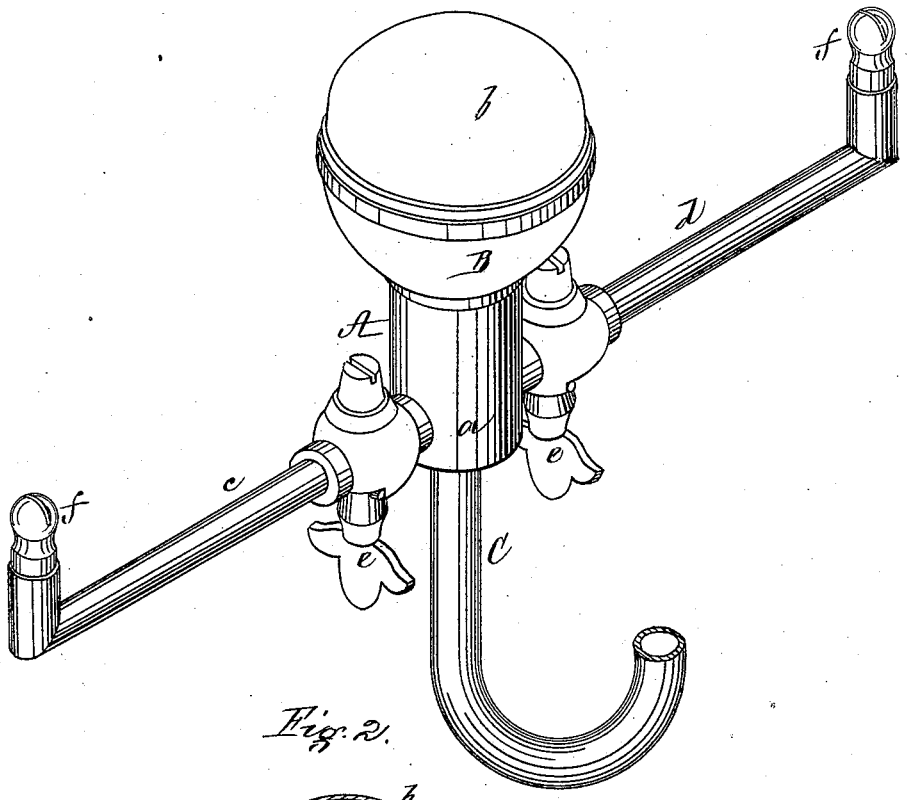
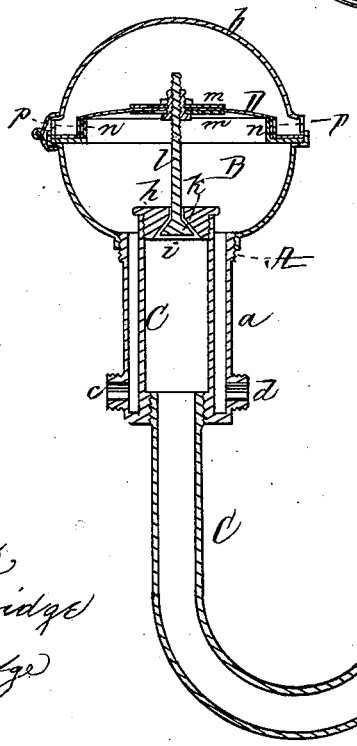


Fig. 2.



Witnesses,
W. J. Cambridge
J. E. Cambridge

Inventor,
John J. Kennevan
per
Teschemacher & Stearns,
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN J. KENNEVAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN AUTOMATIC PRESSURE-REGULATORS.

Specification forming part of Letters Patent No. **206,248**, dated July 23, 1878; application filed June 15, 1878.

To all whom it may concern:

Be it known that I, JOHN J. KENNEVAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Automatic Pressure-Regulator for chandeliers, brackets, and other gas-fixtures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my pressure-regulator applied to a gas-chandelier. Fig. 2 is a longitudinal vertical section through the center of the same.

My invention has for its object to provide a pressure-regulator for chandeliers and other gas-fixtures by means of which the quantity of gas consumed by the burner or burners can be automatically regulated without regard to the pressure of the gas in the pipes or the number of burners in use; and my invention consists in a novel means of connecting the burner-pipes with a chamber provided with a flexible diaphragm, to which is attached the stem of a valve through which the gas is admitted from the supply-pipe to the chamber.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a chandelier, at the center of which is a short vertical tube, *a*, to the top of which is attached a chamber or receptacle, B, provided with a hinged cover, *b*, this chamber communicating at its bottom with the tube *a*, which also communicates with the branch pipes *c d*, provided with stop-cocks *e* and burners *f*.

Through the closed bottom of the tube *a* passes the supply-pipe C, which extends up into the bottom of the chamber B, where it is provided with a screw-plug, *h*, through which is formed a conical aperture, *i*, the sides of which constitute a seat for the conical valve *k*, the vertical stem *l* of which is attached to plates *m* of a flexible diaphragm, D, by means of a screw-thread cut on the top of the valve-stem, whereby the position of the valve *k* with respect to its seat and the consequent size of the inlet-aperture *i* can be regulated so as to vary the amount of gas consumed by each burner, the hinged cover *b* being thrown back when access is to be had to the valve-stem.

The diaphragm is stretched over a vertical flange, *n*, and secured thereon by means of a ring, *p*, forced over it. The valve *k* having been properly adjusted so that a single burner will consume a given number of feet of gas per hour, (which can be determined by actual experiment,) the gas flows up through the pipe C and conical aperture *i* into the chamber B, and thence down into the tube *a* to the branch pipes *c d* and burners *f* when the stop-cocks *e* are open; and when a burner is lighted the pressure of the gas on the under side of the diaphragm D is such that the valve *k* will be maintained at such a distance from its seat as to admit the exact quantity of gas desired; and should one or more additional burners be lighted the pressure of the gas on the under side of the diaphragm will be reduced, causing the valve to descend, and thus enlarge the inlet-aperture *i* so as to admit just the amount of gas necessary to supply to each burner the predetermined number of feet of gas per hour, and the pressure of the gas is thus equalized, so that when the valve *k* is once adjusted the quantity of gas consumed by each burner will not vary, however much the pressure may vary in the street-main; and as the number of burners in use is increased or diminished the position of the valve *k* through the connections described will be varied so that the pressure and consequent amount of gas consumed by each burner will always be the same without regard to the number in use until a new adjustment of the valve *k* is effected.

I am aware that a valve operated by a flexible diaphragm through the medium of the gas-pressure is not new, and hence I make no claim thereto; but

What I claim as my invention is—

The supply-pipe C, diaphragm-chamber B, diaphragm D, and valve *k*, in combination with tube *a*, surrounding supply-pipe C, and provided at its lower end with branch pipes *c d*, all constructed and arranged as set forth.

Witness my hand this 12th day of June, 1878.

JOHN J. KENNEVAN.

In presence of—
P. E. TESCHEMACHER,
W. J. CAMBRIDGE.