

(No Model.)

C. B. BOSWORTH.
ELECTRIC GAS LIGHTING.

No. 248,696.

Patented Oct. 25, 1881.

Fig. 1.

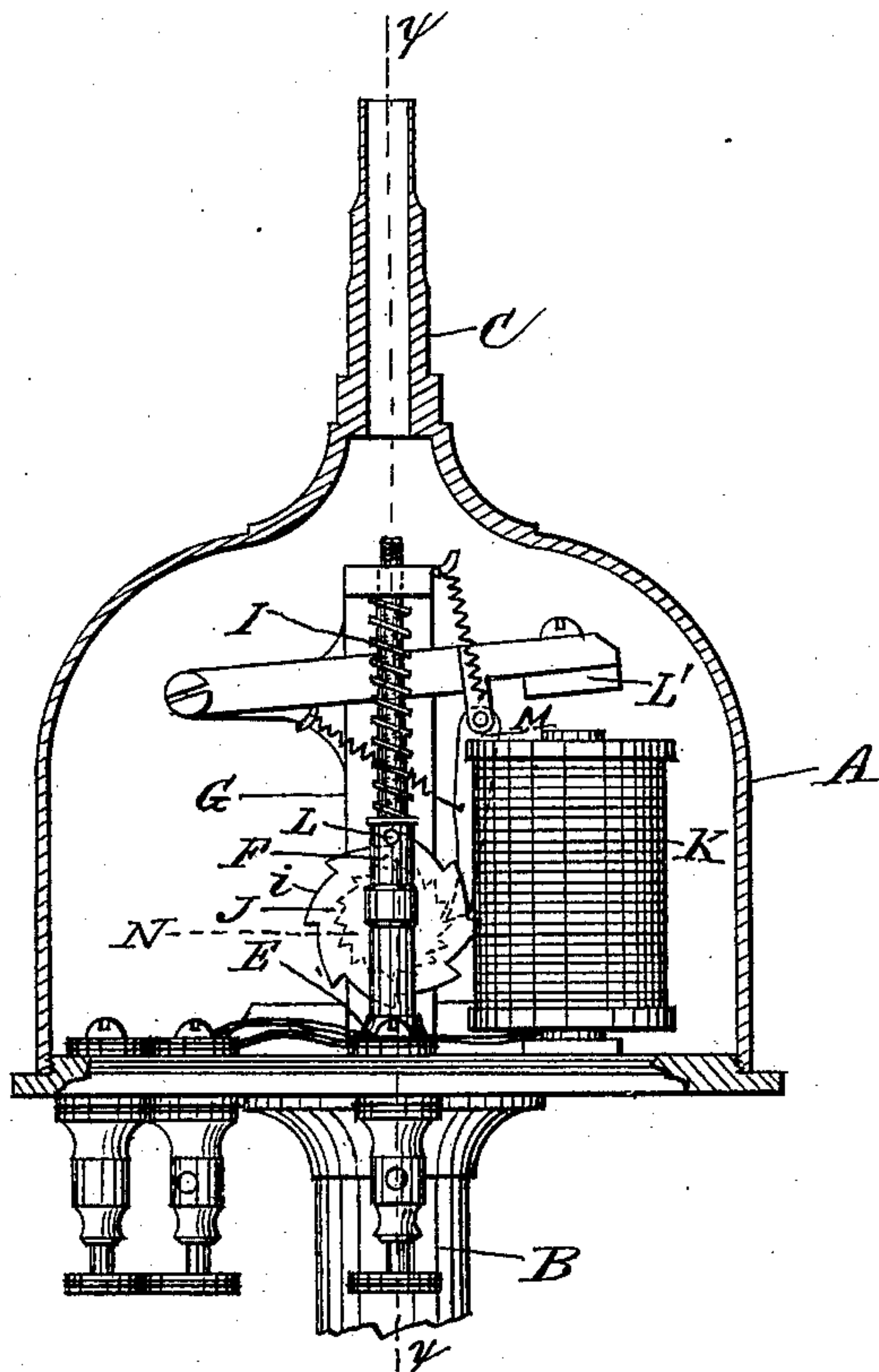
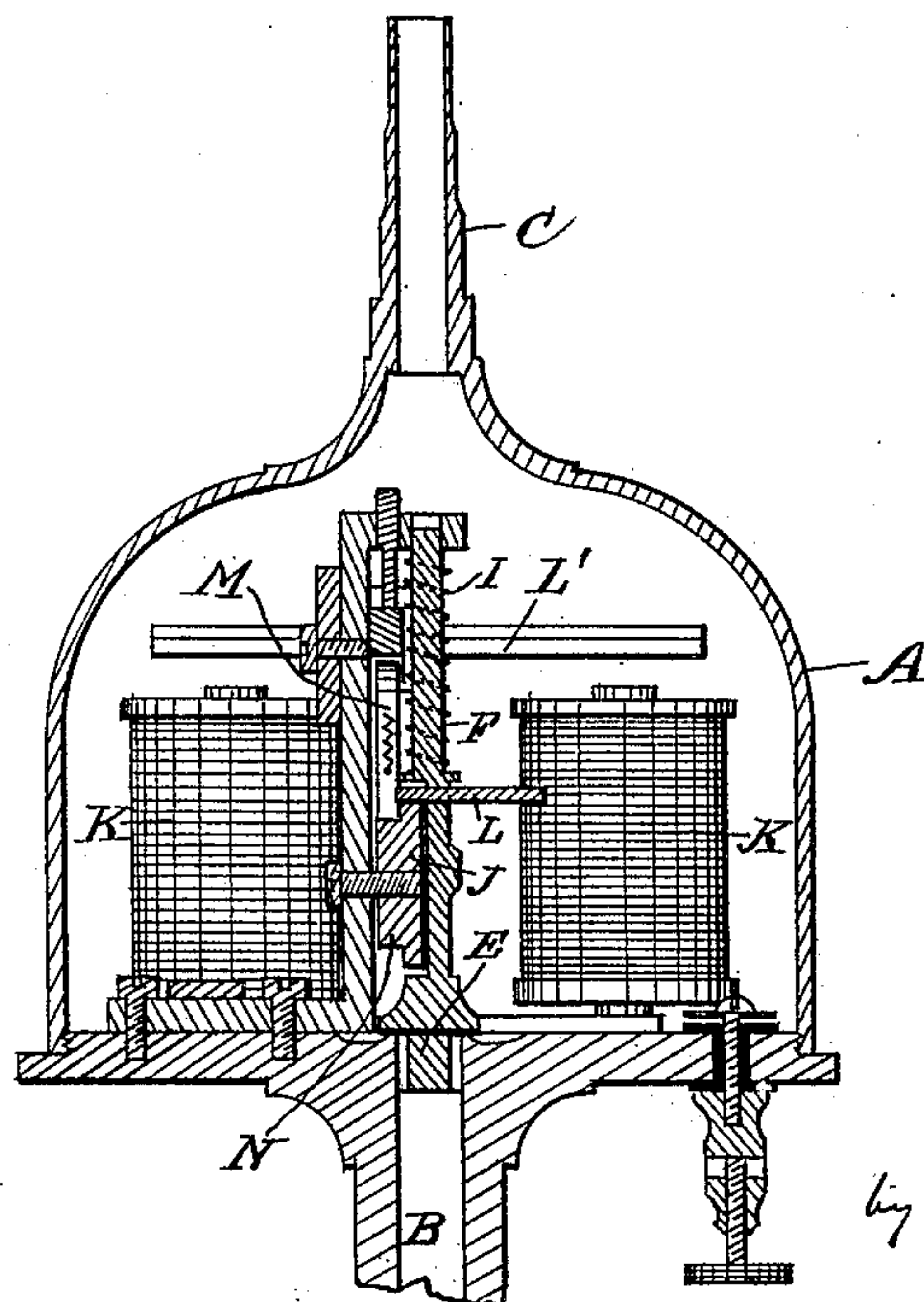


Fig. 2.



Witnesses:
H. G. Wadlin.
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Inventor:
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UNITED STATES PATENT OFFICE.

CHARLES B. BOSWORTH, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE THERMO AND ELECTRIC GAS LIGHTING COMPANY OF THE STATE OF CONNECTICUT.

ELECTRIC GAS-LIGHTING.

SPECIFICATION forming part of Letters Patent No. 248,696, dated October 25, 1881.

Application filed April 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. BOSWORTH, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Electric Gas-Lighting, of which the following is a specification.

This invention relates to that class of electric gas-lighting mechanism in which the pipe leading to each burner is provided with a chamber which forms virtually an enlargement of the pipe near the burner, the gas entering said chamber and passing from thence to the burner, the chamber constituting an inclosing-case to contain the valve and valve-operating mechanism, whereby the gas is admitted to or shut off from the burner.

The invention has for its object to provide certain improved mechanism for alternately opening and closing said valve; and it consists in the combination, with a gas-holding chamber in a gas-pipe near the burner, of the improved mechanism hereinafter described, inclosed by said chamber, and comprising a valve adapted to open and close the inlet to the chamber, and to be alternately opened and closed by the successive attractions of an armature by an electro-magnet forming a part of said inclosed mechanism, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a vertical section of the inclosing-chamber and a side elevation of the mechanism inclosed therein. Fig. 2 represents a section on line *xx*, Fig. 1.

The same letters of reference indicate the same parts in both figures.

In the drawings, A represents the chamber, composed of a base supporting the mechanism hereinafter described, and provided with an inlet, B, adapted to be connected with a gas-pipe, and a dome or cover screwed to the base, and having an outlet, C, terminating in a gas-burner.

E represents the valve, which is located over the inlet B, and is provided with a vertical stem, F, the upper end of which is adapted to slide in a guide-orifice in a standard, G, affixed to the base of the chamber. A spring, I, in-

terposed between the standard and a shoulder on the stem, forces the latter downwardly to close the inlet.

J represents a wheel whose periphery is composed of a series of cams, *i*. This wheel is journaled on an arbor affixed to the standard G, and is located beside the stem F, the latter having a lateral pin or lug, L, which is adapted to be raised by the outer portion of the cams *i* of the wheel J. The inner portion of each cam is arranged to permit the valve to close the inlet when such inner portion coincides with the pin or lug L. It will be seen, therefore, that when the wheel J is rotated the valve is alternately raised or opened by the cams *i* and closed by the spring I. The wheel J is rotated step by step by means of an electro-magnet, K, a neutral armature, L', pertaining to said magnet, a dog, M, pivoted to the lever of said armature, and a ratchet, N, rigidly attached to the wheel J and engaged with the dog M, said parts co-operating, so that each time the armature is attracted by the magnet the wheel J is moved one step. Each step or movement of the wheel J is of such length that when the lug L of the valve-stem coincides with the inner portion of the cam *i* and the valve is closed the next movement of the wheel will bring the outer portion of the same cam under said lug, thereby raising the valve, the wheel stopping while the valve is so raised. The next movement of the wheel will, on the other hand, cause the inner end of the next cam to coincide with the lug, thus allowing the spring I to close the valve, the wheel J stopping when the valve is closed. It will be seen, therefore, that the valve is alternately opened and closed by the successive attractions of the armature L by its magnet, which attractions are effected by closing the circuit at a central office or station, as usual.

The valve and its operating mechanism are all inclosed in the chamber A, as shown, so that no stuffing-box or packing is required around the valve-stem nor any of the parts.

Having thus described my invention, I claim—

The combination of the gas-holding chamber

A, having an inlet adapted to be connected with a gas-pipe and an outlet leading to a burner, the inlet-closing valve E, provided with a stem, F, and with a closing-spring, I, all located within the chamber A, and the valve-operating mechanism, also located within the chamber, and consisting of the rotary wheel having a series of cam-surfaces adapted to alternately raise and release the valve-stem, the
10 electro-magnet K, the armature L, and the intermediate devices, whereby the wheel J is par-

tially rotated whenever the armature is attracted by the electro-magnet, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 4th day of April, A. D. 1881. 15

CHARLES B. BOSWORTH.

Witnesses:

C. F. BROWN,
H. G. WADLIN.