W. W. JACQUES.

Electro-Magnetic Gas-Burners.

No. 204,826. Patented June 11, 1878.

Fig. 1.

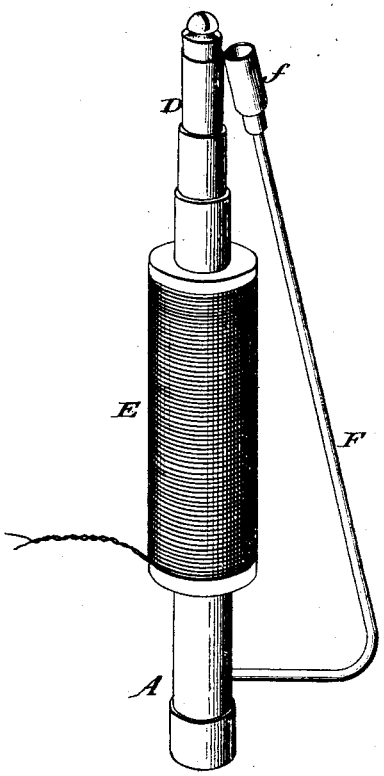


Fig. 2.

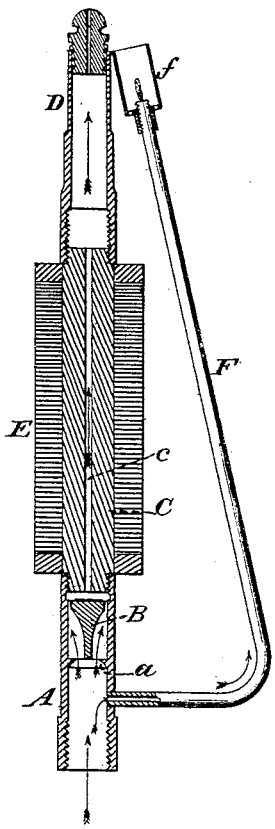
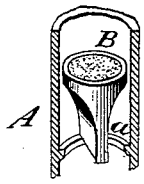


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM W. JACQUES, OF NEWBURYPORT, MASSACHUSETTS.

IMPROVEMENT IN ELECTRO-MAGNETIC GAS-BURNERS.

Specification forming part of Letters Patent No. **204,826**, dated June 11, 1878; application filed May 3, 1878.

To all whom it may concern:

Be it known that I, WILLIAM W. JACQUES, of Newburyport, in the county of Essex and State of Massachusetts, have made certain Improvements in Electro-Magnetic Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side view of my improved electro-magnetic gas-burner. Fig. 2 is a vertical section, partly in side view; and Fig. 3 is a detailed view of the gas-tube opening and closing valve, partly in perspective and section.

The same part in the several figures is denoted by the same letter.

The object of this invention is to provide a gas-burner in which the flow of gas is controlled by an electro-magnetic pillar or body, and a valve of such material and in such manner that it can be manufactured at a very small cost, and at the same time will be durable and free from liability to get out of order or require repairing; and it consists of an electro-magnet suitably connected with a battery and interposed between the burner and a valve, an arm of pipe or tube connecting with the gas-pipe at a point below the valve and extending up in proximity with the burner-tip or orifice, and provided with a deep cup or cylinder around the jet or flame issuing therefrom, substantially as hereinafter more particularly set forth.

In the annexed drawing, A is a section of non-magnetic material, threaded internally at its lower end to permit of its attachment to the pipe of the gas-fixture, to the pipe projecting from the wall of the house, or to the pipe extending up through a lamp-post.

Around the inner circumference of this pipe A is an annular flange or seat, *a*, upon which the stem of the valve of soft iron B rests, as clearly seen in Fig. 3. The valve is made of soft iron and conical in shape, and its top surface is coated with some non-magnetic substance to prevent the so-called sticking of the valve and to insure a more perfect closing of the opening *e*.

C is the electro-magnet, made of soft iron, with a narrow central passage, *c*, through it for the passage of the gas, screw-threaded at both ends, the thread or screw on its lower end to permit of its attachment to the valve-pipe A, the latter having an inner female screw, and the screw on its upper end to permit of the attachment thereto of the burner D, of the usual construction.

Around the electro-magnet is coiled the wire E, connecting with a battery. Connecting with the tube or pipe A, at a point below the valve B, is a bent tube or arm of pipe F, having attached to its upper end (which extends up in proximity with the burner D) a deep cylinder or cup, *f*, to inclose and shield its flame.

The operation is as follows: A current of electricity being transmitted through the wire E around the magnet C, it (the latter) will attract and lift the valve into contact with itself and close the entrance to its passage *c*, and thus cut off the flow of gas and extinguish the light. Break the current, and the attracting power of the magnet having thus been removed, the valve will fall therefrom and thus effect the opening of the passage of said magnet and permit of the flow of the gas, when the latter will be instantly lighted by the flame of the pipe F.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In an electro-magnetic gas-lighting apparatus, the soft-iron portion of the body of the burner interposed between the valve and burner-tip, provided with a helix through which a closed circuit is maintained to close the flow of gas to the main burner by means of an armature-valve, which valve is allowed to fall, thereby allowing the flow of gas by breaking the previously-closed circuit.

In testimony that I claim the foregoing as my own I hereunto affix my signature in the presence of two witnesses.

WILLIAM W. JACQUES.

Witnesses:
B. H. HAMAN,
JNO. MCKEEN.