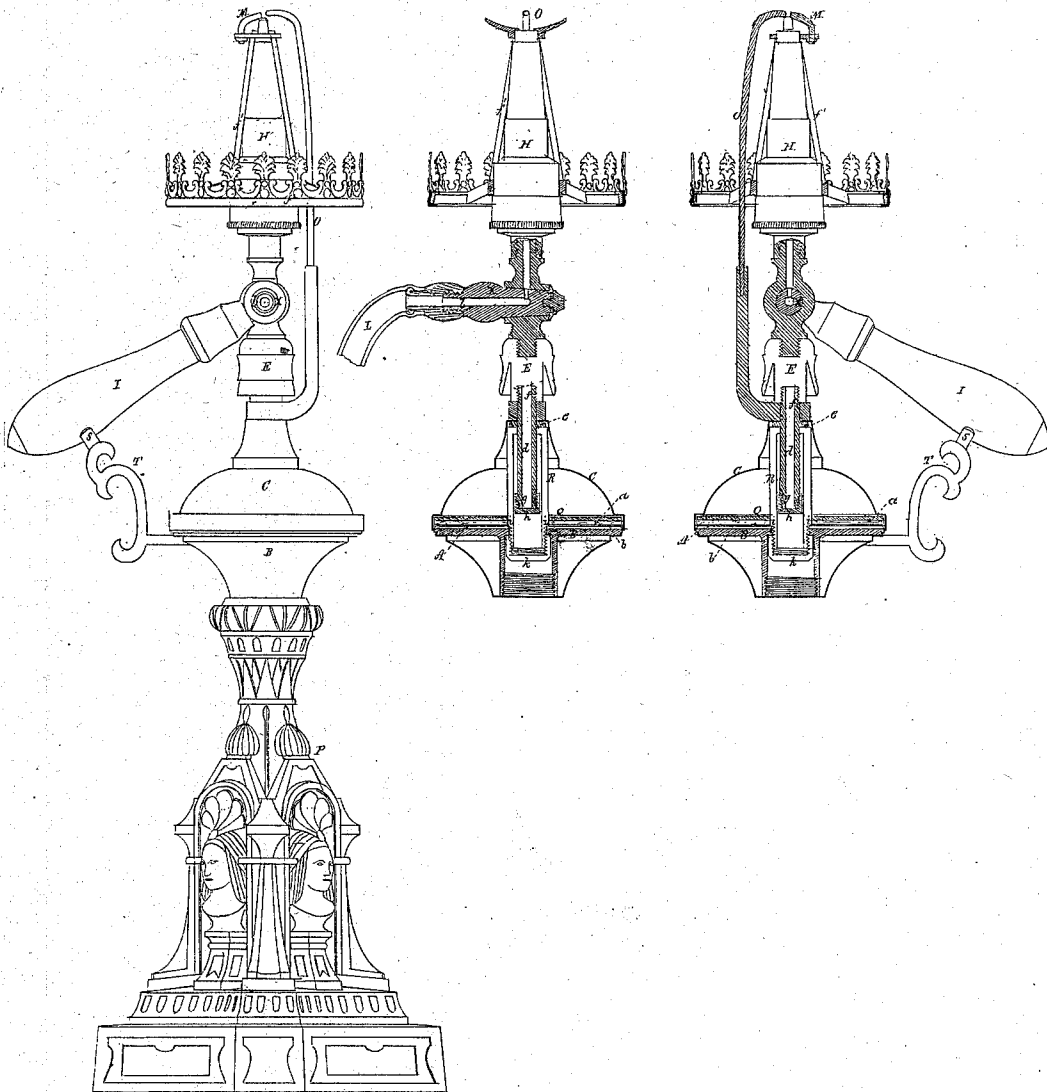


W. W. BATCHELDER.

APPARATUS FOR LIGHTING GAS BY ELECTRICITY.

No. 103,127.

Patented May 17, 1870.



Witnesses.  
S. H. Piper  
J. Brown

W. W. Batchelder  
by his attorney  
H. M. Day

# United States Patent Office.

WILLIAM W. BATCHELDER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO  
GEORGE VILES, OF SAME PLACE.

Letters Patent No. 103,127, dated May 17, 1870.

## IMPROVED APPARATUS FOR LIGHTING GAS BY ELECTRICITY.

The Schedule referred to in these Letters Patent and making part of the same

To all persons to whom these presents may come:

Be it known that I, WILLIAM W. BATCHELDER, of Boston, of the county of Suffolk and State of Massachusetts, have made a new and useful invention having reference to Gas-Burners and Apparatus for Inflaming the Gas thereof by Electricity; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and

Figures 2 and 3 are vertical sections of an apparatus containing my invention.

On September 7, 1869, Letters Patent of the United States of America, numbered 94,545, were granted to me on an apparatus which, in several respects, is analogous to that hereinafter described. There are, however, important differences between the two.

In my present apparatus, the gas-burner and the broken electric circuit are not combined with the gas-cock handle, so as to be movable therewith, as they are in my former apparatus so patented when the handle is raised to open the cock, or depressed to close it.

Furthermore, I have combined the main operative parts composing the electric generator, so that they are in connection even when the upper is raised off the lower part.

I have also dispensed with the auxiliary insulator, marked N in the drawings of such patent, by making the main insulator E, hereinafter explained, perform the function of that auxiliary insulator, as well as that of insulating the gas-burner and cock from the electrical generator.

In my present apparatus, the gas-burner is stationary on its stand, or, in other words, does not tip with and is not directly connected to the handle, as in my patented apparatus, and the electrical generator has a flat disk of vulcanite, with a corresponding excitor.

This disk of vulcanite is shown at A as supported by a metallic stand, B, which screws upon a stand, P.

The excitor, composed of a cushion, Q, consisting of one or more disks, a, of flannel, or other suitable material, inclosed within a cover of leather, b, is fixed within the lower part of a bell-shaped cap, C, which, at its upper portion, is connected to a spindle, d.

This spindle has screws f g at its opposite ends, the upper one being extended from a shoulder, e, which projects from and around the spindle.

The spindle goes down within a tubular insulator, R, formed of vulcanite, and closed at top, except in being provided axially with a hole to receive the spindle in manner as represented.

A nut, h, is screwed on the lower end or screw g of the spindle, and serves to keep the spindle and insulator in connection.

The insulator extends through the vulcanite disk A and its supporter, and is held in place thereon by a shoulder, i, formed on the insulator, and by a vulcanite nut, k, screwed on the lower part of such insulator.

From the screw f of the spindle and the cap C, there extends an electric circuit wire, O, which is held in place by another or main insulator, E, of glass or vulcanite or other proper material, screwed upon the screw f.

A cock, X, surmounted by a gas-burner, H, extends upward from the insulator E.

The burner represented is the well-known "Wood's burner," there being fixed to its shade stand f' the other circuit wire M, which, with the wire O, is disposed in manner as represented in the drawings.

The stem l of the gas-cock X is tubular, and is provided with a weighty handle, I, extended from it at right angles.

This handle, when the cock is open, is to rest on a bracket, T, extended from the lower part B of the electric generator. When, however, the handle is allowed to drop down into contact with the part C of the generator, the flowage of gas through the cock and into the burner is to be cut off, in other words, the cock is to be closed, it being constructed so as to operate in such manner.

The gas is to be led by a conduit, L, into the stem of the cock.

In operating with the apparatus as hereinbefore described, in order to cause gas to flow out of the burner and be inflamed by an electric spark or current produced by the generator, a person should seize hold of the handle I, and by means of it impart to the exciting portion of the generator a reciprocating rotary motion on the disk A of vulcanite, after which he should raise the handle, and the exciting part with the gas-burner upward, until the nut Z may come into contact with the upper part of the insulator E.

The electricity generated by such movements will flow through the wire or conductor O, and be discharged across the space between the points of the two conductors O M. The passing spark in the mean time will inflame or set fire to the current of gas that may be flowing out of the burner, and will be caused to do so by the opening of the gas-cock due to the raising of the handle up to a horizontal position, or thereabouts.

After the gas may have been set on fire, the upper or exciting portion of the generator is to be dropped back upon the lower part or vulcanite disk, and the handle should be placed upon the saddle or upper part s of the bracket T. The gas will then continue to flow out of the burner, and be burned as it may escape.

Although I have represented in the drawings a

"Wood's burner;" I do not intend to limit my invention to such, as any well-known or other proper gas-burner may be substituted for it.

What I herein claim as of my present invention in the apparatus as hereinbefore explained, is as follows, that is to say:

The arrangement and combination of the insulator R and the connecting spindle *d* with the electrical generator, constructed substantially as described.

Also, the arrangement and combination of the insulator R and the metallic connecting spindle *d* with the electrical generator, the broken circuit O M, the main insulator E, the gas-cock X, and gas-burner H.

Also, the arrangement and combination of the elec-

trical generator, the insulator E, the broken circuit O M, the gas-cock X, the gas-burner H, the handle I, and the bracket to support the handle under circumstances, as specified.

Also, the arrangement, as described, of the insulator E with the broken circuit conductor O, the electrical generator, the gas-cock and burner, the same causing the said insulator to perform the two functions, as hereinbefore set forth.

W. W. BATCHELDER.

Witnesses:

R. H. EDDY,

J. E. SNOW.