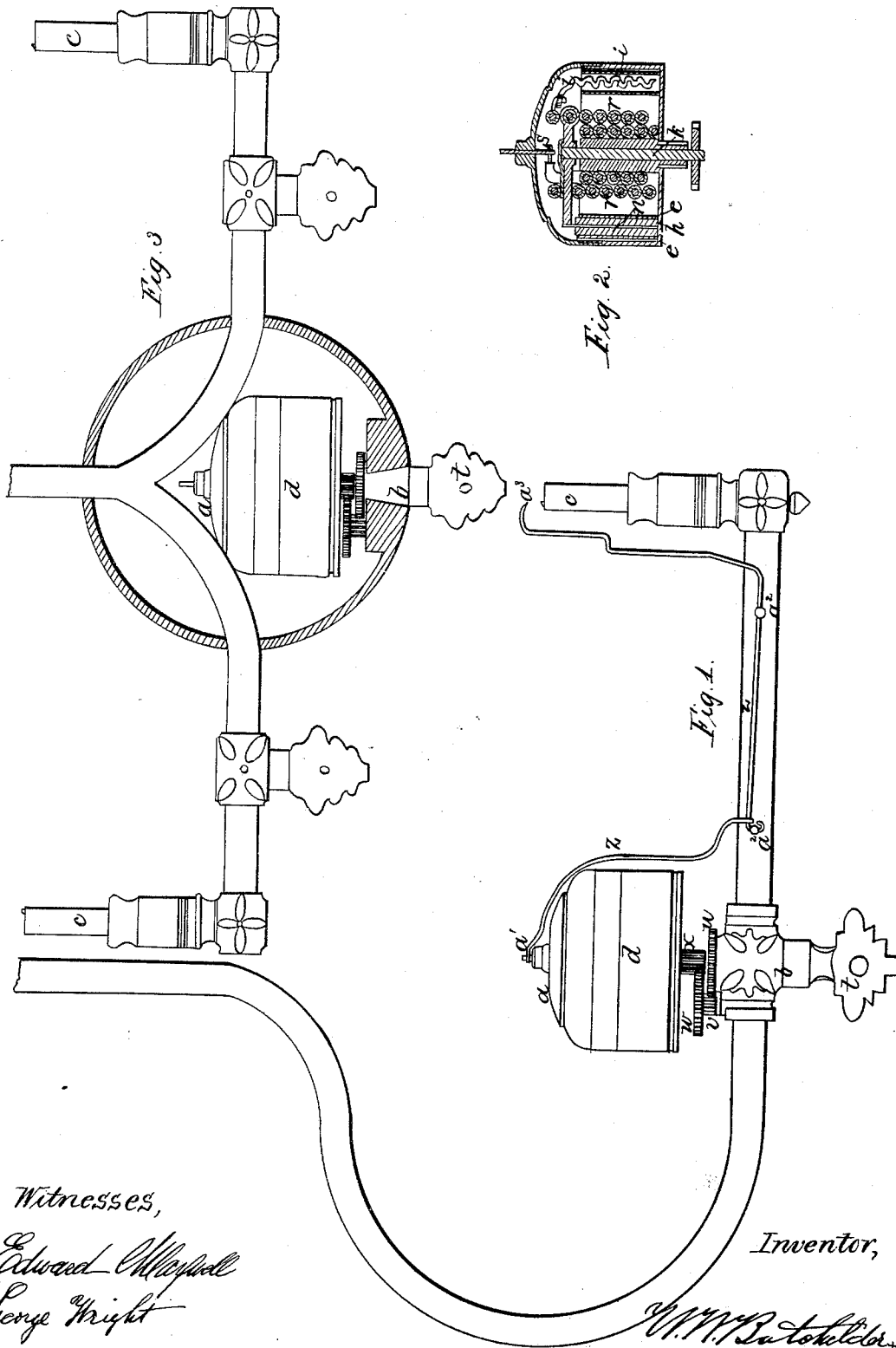


W. W. BATCHELDER.
ELECTRIC GAS LIGHTING.

No. 26,964.

Patented Jan. 31, 1860.



Witnesses,
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UNITED STATES PATENT OFFICE.

W. W. BATCHELDER, OF NEW YORK, N. Y.

IMPROVED METHOD OF LIGHTING GAS BY FRICTIONAL ELECTRICITY.

Specification forming part of Letters Patent No. 26,964, dated January 31, 1860.

To all whom it may concern:

Be it known that I, W. W. BATCHELDER, of New York, in the county of New York and State of New York, have invented an Improved Mode of Igniting Gas; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is an elevation of a gas-fixture and electromotor attached; Fig. 2, a vertical middle section through the electromotor; Fig. 3, an elevation showing the electromotor attached to a gas-fixture with two burners.

My invention consists in a mode of lighting gas by electricity, described and represented as follows:

I connect with an ordinary gas-fixture an electromotor, *a*, in such manner that when the stop-cock *b* is turned to "let on" the gas to the burner *c* electricity is developed, and so brought to bear upon the gas-jet as to ignite it. This is effected as follows. The electromotor in this instance is a frictional electric machine constructed as follows:

d is a small box, of the size represented in the drawings, made of what is known as "hard rubber" or other suitable electric. Within this box are two eccentric cylinders, *ee*, of hard rubber or other suitable electric, and between these cylinders passes the rubber *n* and the collector *i*. The rubber is made of wash-leather and attached to an arm, *h*, which revolves with the central spindle or shaft, *k*, connected with the thumb-piece *t* of the stop-cock. The collector *i*, which is merely a bent wire, as shown in the drawings, is connected with the prime conductor *r*. This conductor, which is a helix of wire covered with gutta-percha, surrounds the hollow stem or shaft which rises from the bottom of the box *d*, one end of the helix being connected with a small conducting-wire, *s*, passing through the top of the box *d*. When the stop-cock is turned to let on the gas it gives rapid motion to the box *d* through the gear *u*, pinion *v*, gear *w*, and pinion *x*, the pinion *x* being attached to the bottom of the box.

The electricity developed by the friction of the rubber between the cylinders *ee* is received by the collector and conveyed through the prime conductor to the wire *s*.

The wire *z*, which has a loop, *a'*, on its end where it embraces wire *s*, is insulated from the gas burner and pipe by little stems of gutta-percha, *a² a²*, or other suitable means, and when the stop-cock is turned an electric spark passes from the end *a'* across the jet of gas and ignites it.

In case there are several burners or a chandelier the electromotor is placed centrally, and is of size and energy proportioned to the number of burners. It is obvious that a great variety of forms and other species of electromotors may be substituted with the same effect as the above described; and it is also obvious that various mechanical arrangements and devices may be adopted without changing the character of my invention, which consists in connecting the electromotor (whatever it may be) with the gas-fixture itself, so that the person who lets on the gas is enabled at the same time to bring the electric fluid into action so as to ignite the jet of gas.

I am aware that a jet of gas has been before lighted by the electric spark, and also by wires heated by an electric current generated by an electromotor not connected with the gas-fixture, except by electric conductors, and such devices I do not claim; but

I do claim—

1. Attaching the electromotor to the gas-fixture, substantially as and for the purposes herein set forth, meaning by "gas-fixture" that part of the gas pipe or conductor which is in proximity to the burner, and to which the burner is attached, whether it be a bracket, drop-light, chandelier, or stand, or other analogous fixture.

2. Connecting the electromotor with the stop-cock, so that the act of turning the same to let on the gas shall bring the electromotor into action, as herein set forth.

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Witnesses:

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