

J. B. FULLER.
Electric-Candles.

No. 215,733.

Patented May 27, 1879.

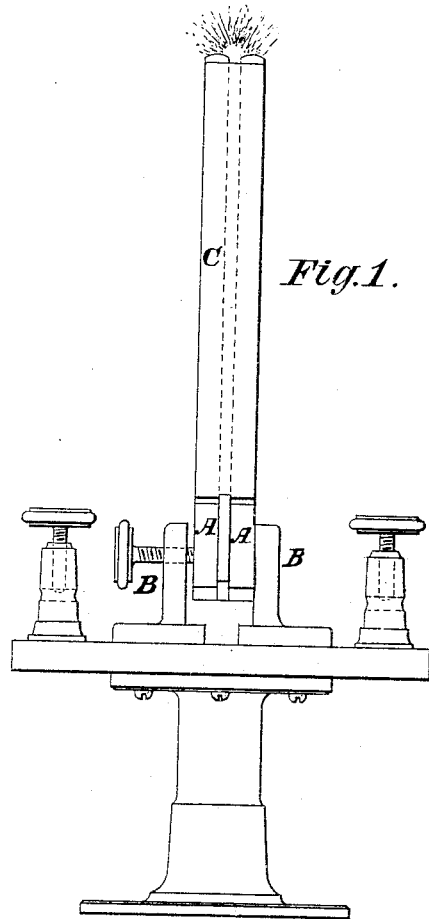


Fig. 1.

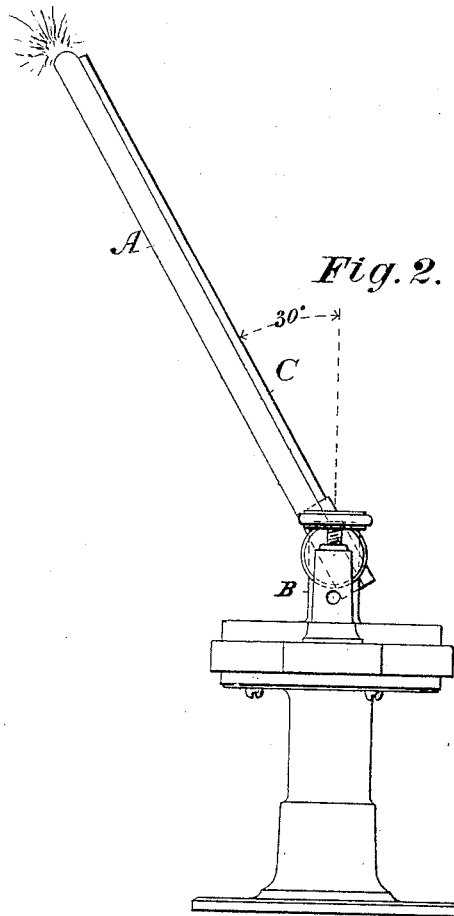


Fig. 2.



Fig. 3.

Witnesses:
John Grandall
James Brady

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JIM B. FULLER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN ELECTRIC CANDLES.

Specification forming part of Letters Patent No. **215,733**, dated May 27, 1879; application filed October 17, 1878.

To all whom it may concern:

Be it known that I, JIM BILLINGS FULLER, of Brooklyn, New York, have invented a new and useful Improvement in Electric Burners for Electric Light, of which the following is a specification.

The object of this invention is to provide a means for conveying between the carbon points a small portion of the electric current, in such a manner as not to obstruct the flow of the electric arc through the space between the carbon points, for the purpose of increasing the volume of light, modifying its intensity, and of maintaining several such burners in a single circuit.

I am aware that carbon rods have been arranged with an insulating fusible material between them, and that they may be burned at any desired angle, as shown in the patent of Jablochkoff, May 15, 1877; but if the carbons thus arranged burn faster than the insulating material, or if one carbon consumes faster than the other, the insulating material, in a fused condition, accumulates at the upper end of the carbons, and conveys the current with but little resistance, producing but little light.

My invention consists in an electric burner composed of two carbon rods arranged parallel with each other, a proper distance apart, and at a suitable angle from a vertical position, and having a narrow strip of glass, clay, porcelain, or other earthy or mineral substance which, at ordinary temperatures, is a non-conductor of electricity, but when in a fused or melted condition becomes conductive, placed upon the upper side of said carbons, leaving the space between the carbons open and unobstructed for the flow of the electric arc.

In the drawings, A represents the carbon rods secured to the clamp B. C is a narrow strip of glass, or other substance above named, resting on the upper side of the carbons.

Conducting-wires from an electric generator communicate with the lower ends of the carbons in any convenient manner.

The light is effected by momentarily connecting the points of the carbons by means of any electric conductor, when the electric arc is instantly produced between the points,

forming a portion of the circuit. The fusible material then commences to burn, adding greatly to the volume of light, and so modifying its intensity that it is not dangerous or unpleasant to the eyes.

The fused material, acting as a partial conductor, prevents the fluctuations of the current, common in magneto-electric machines, from breaking the circuit.

The arc may, for an instant, be broken; but the current through the fused material will re-establish it before the eye can detect the interruption.

Should the carbons consume faster than the fusible material, the excess of the latter, being in a melted condition, will fall in drops from between the carbons into a receptacle for it without affecting the light.

The exact angle for the carbons depends greatly upon the number of burners in the circuit and the strength of the current.

I have found that a position about twenty degrees from a vertical line gives the best results; but I do not confine myself to this position, as there are so many conditions which may render a different angle preferable.

Experience readily enables the attendant to properly adjust the burner so as to obtain the best results. I will here state, however, that if the carbons are too near vertical the fusible material will only be heated to a degree which will cause it to roll back away from the carbon points without becoming fused at the points of contact with the carbons, so as to become conductive, as shown in Figure 3.

I claim—

An electric burner consisting of two rods of carbon arranged parallel with each other, a proper distance apart, and at suitable angle between a vertical and a horizontal position, and having a strip of glass, or other substance herein named, resting upon the upper side of said carbons, the space between the carbons being free for the flow of the electric arc, substantially as and for the purpose specified.

JIM BILLINGS FULLER.

Witnesses:

J. N. CRANDALL,
JAMES BRADY.