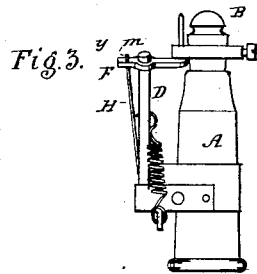
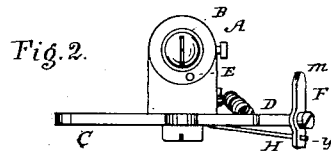
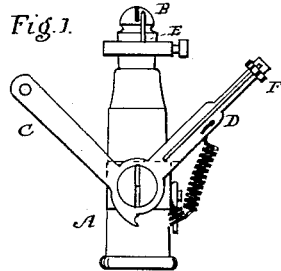


A. T. SMITH  
Electrodes for Electric Gas-Lighting Burners.

No. 206,272.

Patented July 23, 1878.



Witnesses:  
Geo. H. Friend  
Theodore Clark.

Inventor:  
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By his atty.  
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# UNITED STATES PATENT OFFICE.

ADOLPH T. SMITH, OF NEW YORK, N. Y., ASSIGNOR TO ABRAHAM L. BOGART,  
OF SAME PLACE.

## IMPROVEMENT IN ELECTRODES FOR ELECTRIC GAS-LIGHTING BURNERS.

Specification forming part of Letters Patent No. **206,272**, dated July 23, 1878; application filed  
May 10, 1878.

### *To all whom it may concern:*

Be it known that I, ADOLPH T. SMITH, of the city of New York, in the county and State of New York, have invented an Improved Electrode for Electric Gas-Lighting Burners; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification.

This invention relates to an improved elastic or spring-acting electrode, of simple construction, for gas-burners lighted by electricity, for the purpose of producing an electric spark to light the gas by making and breaking contact with a second electrode at a point in close proximity to the orifice of the burner from which the gas issues; and its object is to construct the said electrode in such a manner that it will be certain in its action, will make a prolonged and wiping contact, and will not be liable to become inoperative or impaired in its action by the heat of the flame or other causes.

The invention consists, mainly, in the improved construction of and means for operating the electrode or contact-point, which consists in a small horizontal metallic bar pivoted upon the end of a vibrating arm, which bar or contact-point, in its normal position, is held by means of a spring at right angles to the line of motion of the said arm, so that when the said arm is moved forward the bar will come in contact with a second electrode, making and breaking contact therewith in close proximity to the orifice of the burner from which the gas issues, thereby producing a spark and igniting the same, and by the action of the said spring a prolonged or wiping contact is effected and an enlarged spark produced. The said bar or contact-point may be arranged, in relation to the other parts of the burner, either to pass the second electrode or to retreat therefrom after making the wiping contact above mentioned, all of which is hereinafter particularly described.

In the accompanying drawing, Figure 1 represents a front elevation of a gas-burner provided with my improvement. Fig. 2 is a top view, and Fig. 3 a side elevation, of the same.

Similar letters of reference indicate the same parts in all the figures.

A represents an ordinary gas-burner, provided with a burner-tip, B, a pivoted arm, C, for operating either the cock of the burner or the vibrating arm D, or both of them, and an electrode, E, located in close proximity to the orifice from which the gas issues. All of these parts may be of any suitable form and construction, as I do not claim either of them as my invention, and do not confine myself either to the exact construction or the arrangement of the same herein shown.

F represents my improved electrode, which consists of a small horizontal metallic bar, *m*, pivoted at the end of the vibrating arm D, in such position that when the said arm D is rotated the bar *m* will come in contact with the electrode E, attached to the arm D at one end; and at its other end, to the heel of the pivoted arm *m*, as seen at *y*, is a spring, H, by means of which the said bar is retained, when at rest, in a position at right angles to the line of motion of the arm D, and which, when the said bar *m* comes against the electrode E, produces a prolonged and wiping contact between the surfaces of the two electrodes.

The arm D, carrying the electrode F, may be operated by suitable means, so that the electrode F may either be carried past and beyond the electrode E, or so that, having made the wiping or frictional contact therewith, as above mentioned, it will retreat to its former position, as may be preferred.

It will be understood that one or the other of the electrodes E F must be insulated from the burner, and in the drawing E is represented as being insulated by means of a lava tip, upon which is secured a ring, *a*, that carries the said electrode; but I do not confine myself to this exact arrangement; neither do I claim the said ring *a*, arranged in that manner, as my invention.

One advantage, among others, secured by my invention is, that my improved contact-point, especially if made of platinum or similar metal, will not be injured if accidentally left in the flame, which sometimes occurs in the case of the spring-wire contact-point heretofore used, by reason of the temper being taken

out of the wire by the heat of the flame; and the spring II is so remote from the flame that it is not injuriously affected thereby.

What I claim as my invention is—

1. The electrode F, consisting of the bar *m*, pivoted on the upper end of the vibrating arm D, and operated, substantially as described, by means of a straight spring, II, the upper end of which is attached to the heel of the said bar *m*, and its lower end to the arm D, as and for the purpose set forth.

2. The metallic bar *m*, pivoted on the upper

end of the vibrating arm D, and actuated by a straight spring, II, one end of which is attached to the heel of the bar *m*, and its other end to the vibrating arm D, in combination with a fixed electrode, E, located near the orifice of the burner-tip, as and for the purpose set forth.

ADOLPH T. SMITH.

Witnesses:

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