

J. K. SIMPSON.  
Electrical Torch.

No. 69,715.

Patented Oct. 8, 1867.

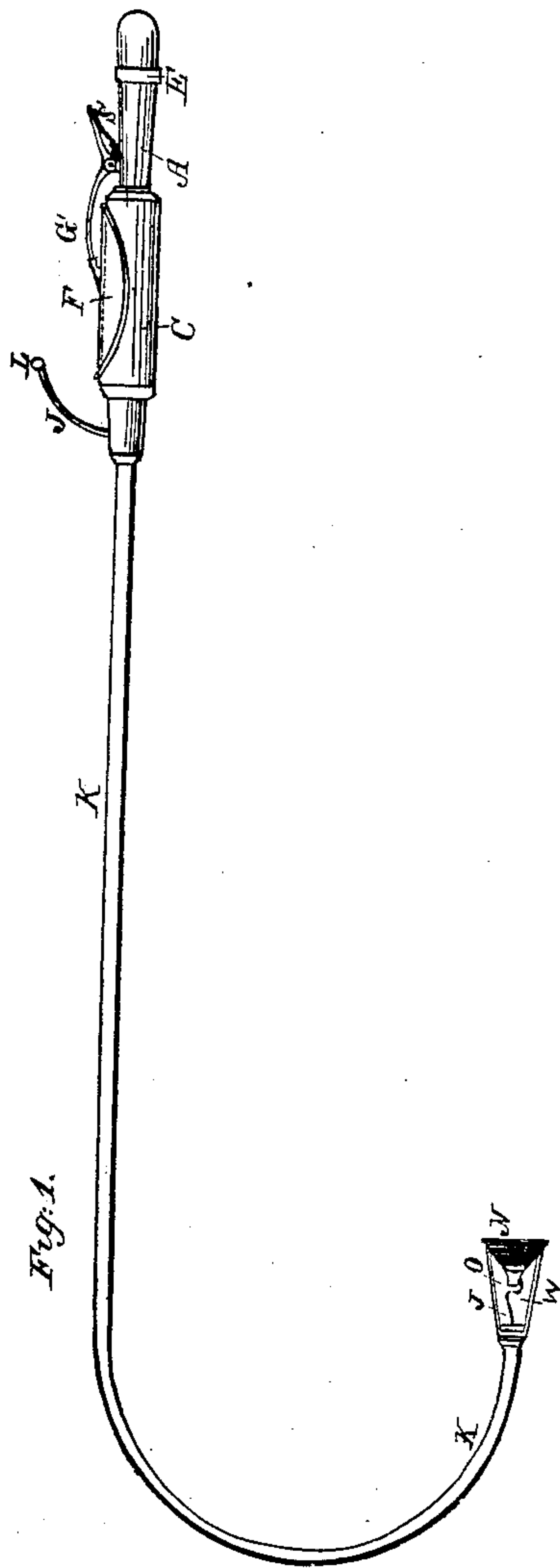


Fig. 1.

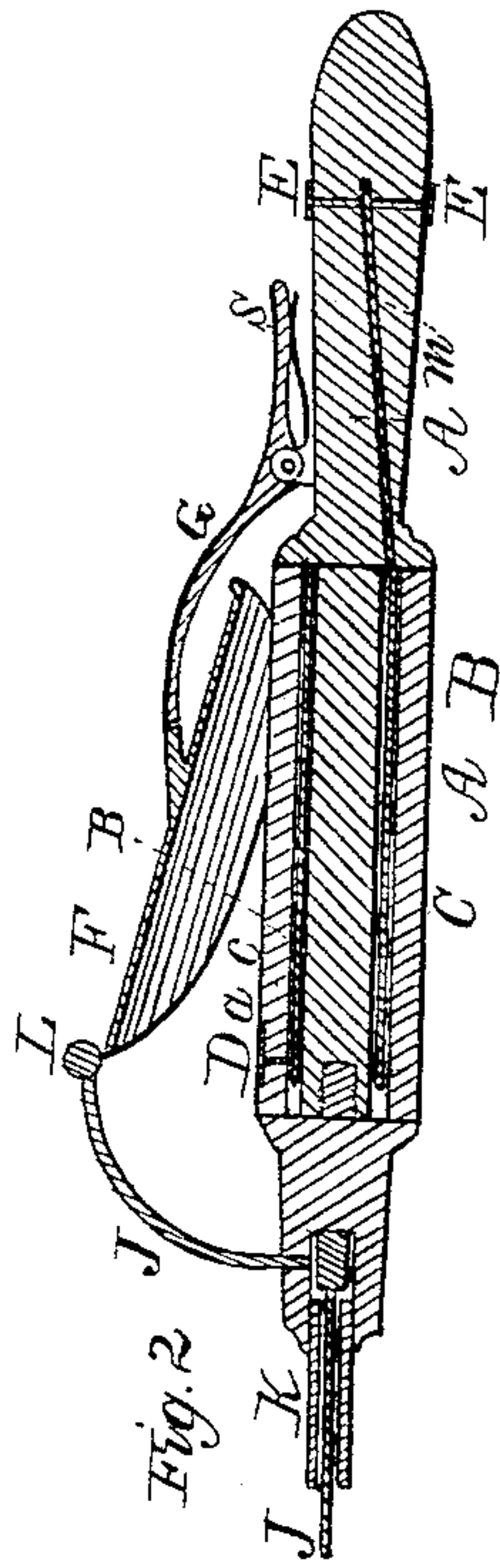


Fig. 2.

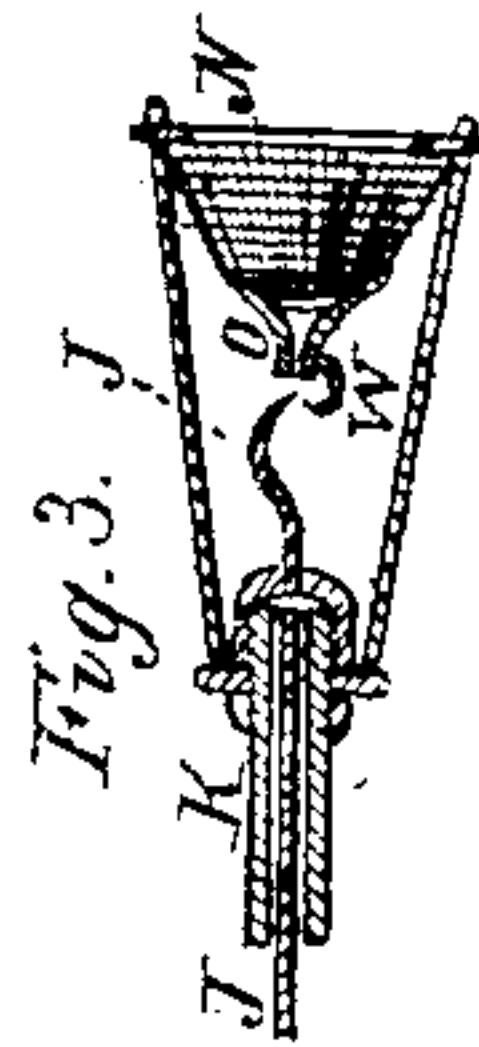


Fig. 3.

Witnesses  
*Henry C. Rader*  
*John A. Vannon*

Inventor.  
*John K. Simpson*

# United States Patent Office.

JOHN K. SIMPSON, OF NEW YORK, N. Y.

*Letters Patent No. 69,715, dated October 8, 1867.*

## IMPROVEMENT IN ELECTRICAL TORCHES.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN K. SIMPSON, of New York, in the county and State of New York, have invented a new and useful Electrical Torch for lighting gas; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, and to the letters of reference marked thereon.

Figure I represents an outside view of my improved electrical torch.

Figure II is an enlarged view in section showing the construction of the electrophorus.

Figure III represents the upper end of the torch in section at an enlarged scale.

The nature of my invention consists in the construction of a torch having at the lower end an electrophorus, and at its upper end a perforated cup, provided with a suitable nipple or burner, and to which a small wire is attached projecting a little distance above the burner, opposite to which the end of the insulated wire connected with the electrophorus is arranged, so that a spark being produced the gas passing through the perforated cup or burner will be ignited.

In the accompanying drawing, A represents the handle, made of wood, around the upper part of which a metal tube, B, is placed, outside of which a hard-rubber tube, C, is arranged. Near the upper end of this tube C a small metal plate, D, is inserted, flush with its surface, and connected by a rod, *a*, with the metal tube B. To the lower end of this metal tube B a rod, *m*, is attached, passing into the lower part of the wooden handle A, and communicating with the outer surface of said handle, by being connected to the metallic ring E, or its equivalent. Around part of the rubber tube C a metallic plate, F, is bent, or a piece of wood covered with tin-foil may be used, and attached to a lever, G, turning on a centre, fast to the handle A, and so arranged that the plate F may be lifted up or moved away from the surface of rubber tube C. A spring, S, arranged between the handle A and the end of the lever G, presses the metal plate F against the surface of the rubber tube C. The metal plate D is so arranged that when the surfaces of plate F and of the tube C touch each other, said plate F will come in contact with this plate D, forming thereby, through said plate D, rod *a*, tube B, rod *m*, and metal ring E, in connection with the hand having hold of the handle A, a communication with the earth, preventing thereby the necessity of touching the plate F each time with the finger after the same has given a spark. Above the handle A and the above-described electrophorus, a wire, J, is attached, perfectly insulated. The lower end of this wire J extends outside of the insulated part, and is provided with a metal ball, L, at its end, arranged in such a position that when the metal plate F is moved away from the electrophorus, the upper end of said plate F will come in contact, or nearly so, with this ball L, to receive the spark given out by the edge of the plate F. On the upper end of the insulation K of this conducting-wire J, a perforated cup, N, is attached, provided with a suitable nipple or burner, O. To this burner a wire, *w*, is attached, so arranged that its extreme point is brought over the summit near the centre of the burner. The end of the insulated wire J is brought opposite the end of this wire *w*, near to the centre of the burner O. Instead of making the electrophorus of hard rubber, as here described, any other known material answering the same purpose may be used.

The operation of this torch is as follows: The electrophorus being well dried, by wiping the same with a piece of silk, or any other cloth, the lifting up of the plate F from the surface of the electrophorus C will cause a spark to be produced, which is passed to the ball L. On the burner to be lighted the gas is turned on, and the perforated cup N placed over said burner, whereby the gas will escape through the perforations in the cup N and through the nipple O. The moment this cup N touches the burner to be lighted, a connection through the said burner will be established with the earth, and which will cause the spark communicated to the ball L, which acts as a recipient for the electric fluid, to pass from the end of the wire J to the wire *w*, igniting in its passage the gas escaping through the cup N and nipple O.

It will be readily understood that while with all former attempts of igniting gas by electricity some alterations were required to be made on the burner, or some peculiarly constructed bracket or burner had to be used, arranged with wires or chains communicating with the electrical machine, or to which the spark of an electrophorus was communicated, by the use of this improved torch any burner may be ignited independent of its construction, and without any prior alteration to adapt it for this purpose.

What I claim as my invention, and desire to secure by Letters Patent, is—



1. The herein-described electrophorus, consisting of the hard-rubber tube C, the metallic plate F, and the metallic tube B, connected through the plate D and rod *a* with the outer surface of the rubber tube C, and through the rod *m* and ring E, or its equivalent, with the outer surface of the handle A, arranged and operating as set forth.

2. I claim the perforated cup N, provided with a suitable nipple, O, and uninsulated wire *w*, attached to said nipple, arranged in the manner and for the purpose described.

3. I claim the combination of an electrophorus situated near the lower end of a torch, the perforated cup N at the upper end of said torch, and the insulated conducting-wire J between the electrophorus and the perforated cup, so arranged as to receive the spark or sparks from the electrophorus and conduct the same opposite to the end of the uninsulated wire *w* situated above the nipple O of the perforated cup N, the whole being arranged and operating in the manner and for the purpose substantially as set forth and described.

JOHN K. SIMPSON.

Witnesses:

HENRY E. ROEDER,  
WM. D. HANNON.