

(No Model.)

H. N. WILLIAMS.
ELECTRIC GAS LIGHTING APPARATUS.

No. 322,233.

Patented July 14, 1885.

Fig. 1.

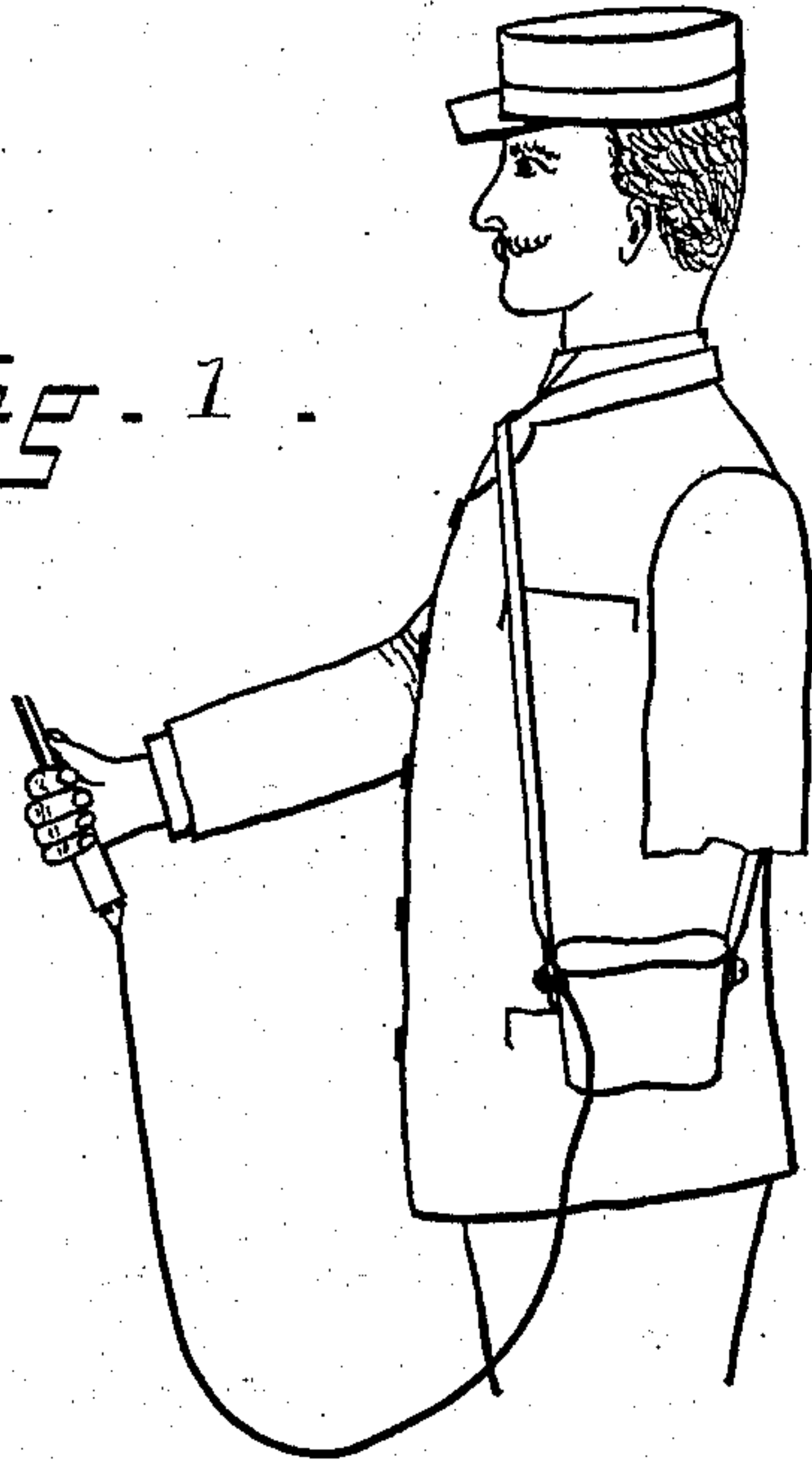


Fig. 3.

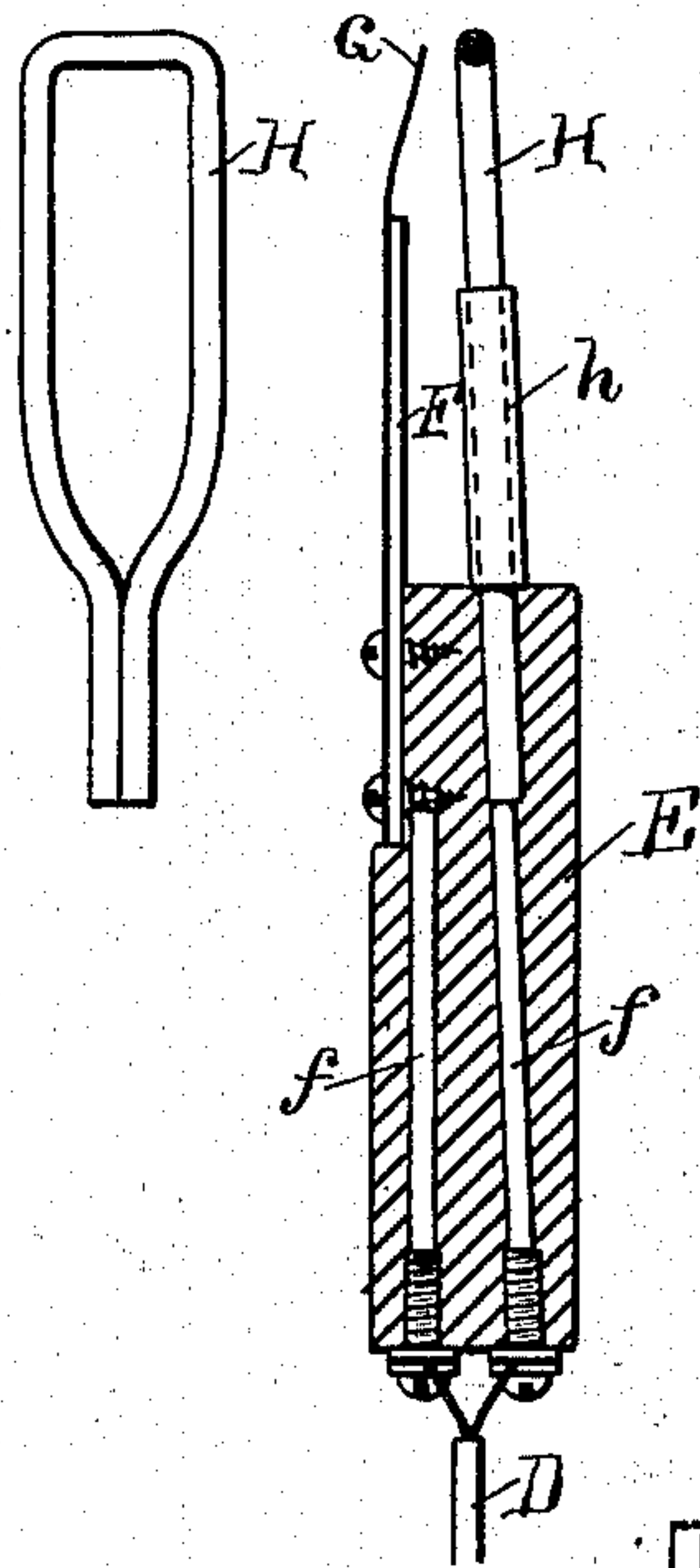
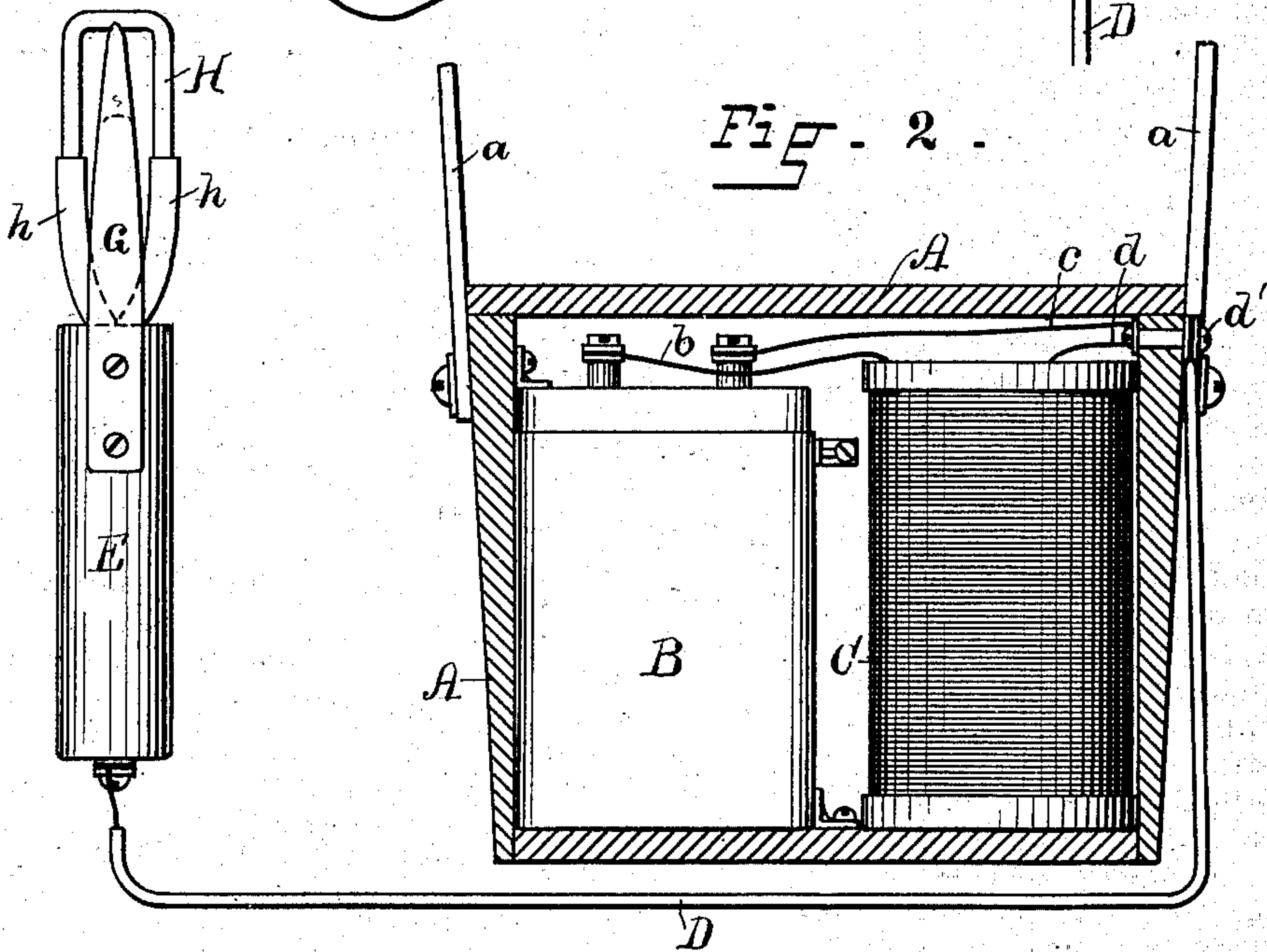


Fig. 2.



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ELECTRIC GAS-LIGHTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 322,233, dated July 14, 1885.

Application filed March 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, HORATIO N. WILLIAMS, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Portable Electric Gas-Lighting Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to that class of electric apparatus which are designed to produce a lighting-spark upon the contact or near approach of two contact-points; and the object of my invention is to embody the several parts of the apparatus in a conveniently-portable form, and also to produce an efficient hand attachment for producing the lighting-spark.

To the above ends my invention consists in the peculiar and novel construction and arrangement of the apparatus, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a profile view of a man, showing the intended application of my invention. Fig. 2 is a transverse section of the battery and a side elevation of the hand-lighting attachment. Fig. 3 is a sectional view of the hand-lighting attachment.

In the said drawings, A designates the case for the battery, which may be made of about the size of an ordinary field-glass case, or of such size as to be inclosed within such a case, or of such size and shape as to resemble such a case. The case A is intended to be suspended from the person of the user, and for this purpose it is provided with the strap or straps *a*, arranged to be used as indicated in Fig. 1. The case A is provided with the cover *A'*, which is hinged to the case or otherwise connected therewith in such manner as to permit ready access to the interior of the case.

Within the case are placed one or more cells, B, and a helix, C, which are connected in the usual manner by the wire *b*.

D designates an insulated cable containing two wires and secured to the binding-post *d'* upon the side of the box or case A. A wire, *c*, leads from the cell B to the binding-post,

and a similar wire, *d*, leads from the helix C to said post.

E designates the hand-lighting attachment, which consists of a hollow piece of non-conducting material, of cylindrical or other form to be conveniently held in the hand. This hand-piece contains two wires, *f*, which extend longitudinally within the handle, and to the lower ends of each of which one of the wires of the cable D is connected. One of the wires *f* connects with a spring-plate, F, secured to the side of the hand-piece at its outer end.

G designates a spring, which is secured to the hand-piece E and rests against the outer side of the plate F.

H designates a bent bar, which constitutes the opposite contact-point to that formed by the spring G. This portion H is of horseshoe shape, and is inserted, ends downward, into the upper end of the hand-piece E, so that the ends of the bent bar come into contact with the upper end of the wire *f* not leading to the plate F. The lower ends of the bar H outside of the handle E are covered with an insulating-jacket, *h*. The upper end of the spring G is formed tapering, as shown in Fig. 2.

The operation of the apparatus is evident from the foregoing description. The upper end of the plate G is brought close to the bar H, and a spark passes from the plate to the bar.

Having thus described my invention, I claim—

1. The combination, with the battery A B C, constructed and arranged as described, and the wires *b c d* D, of the hand-piece E, the wires *f*, the plates F G, and the bent bar H, provided with the insulators *h*, substantially as and for the purposes set forth.

2. The hand-piece E, in combination with the wires *f*, the plates F G, and the bent bar H, substantially as set forth.

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Witnesses:

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