

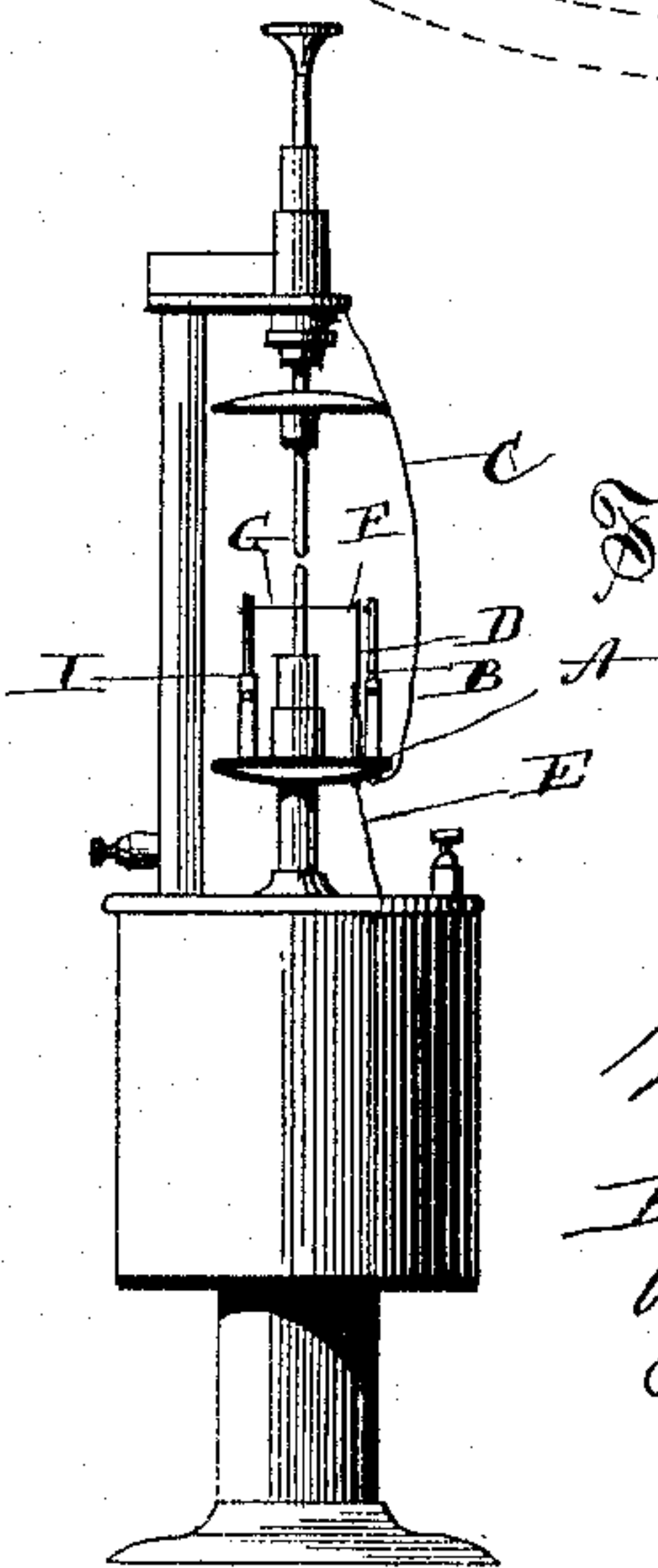
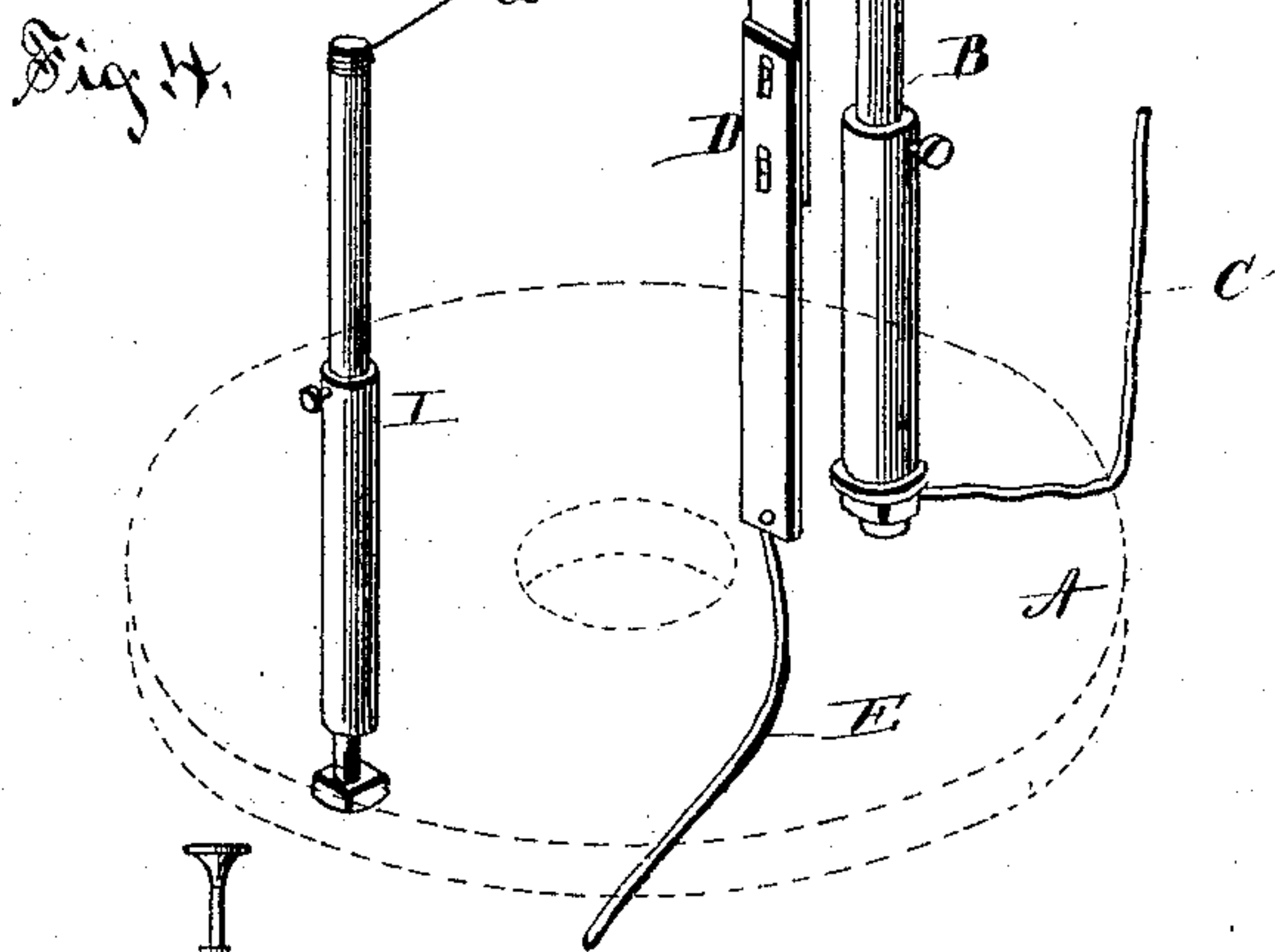
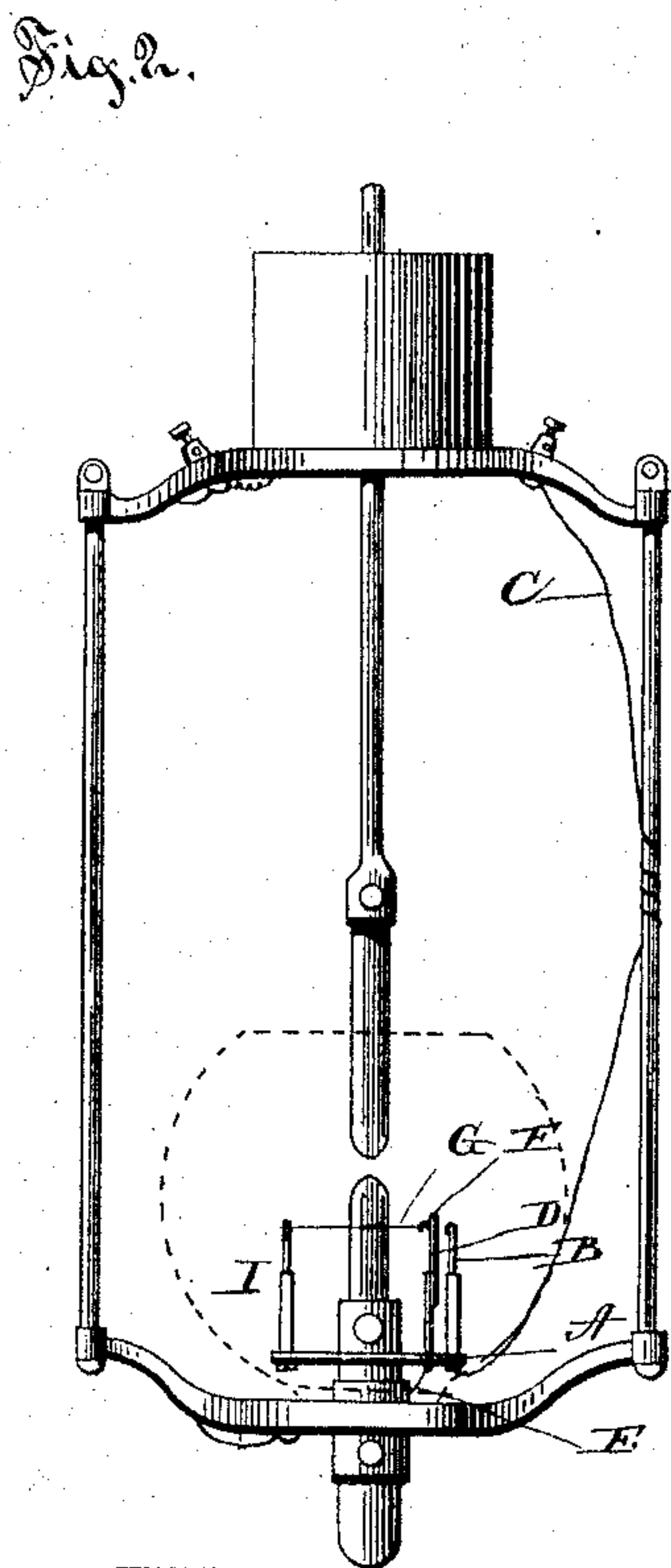
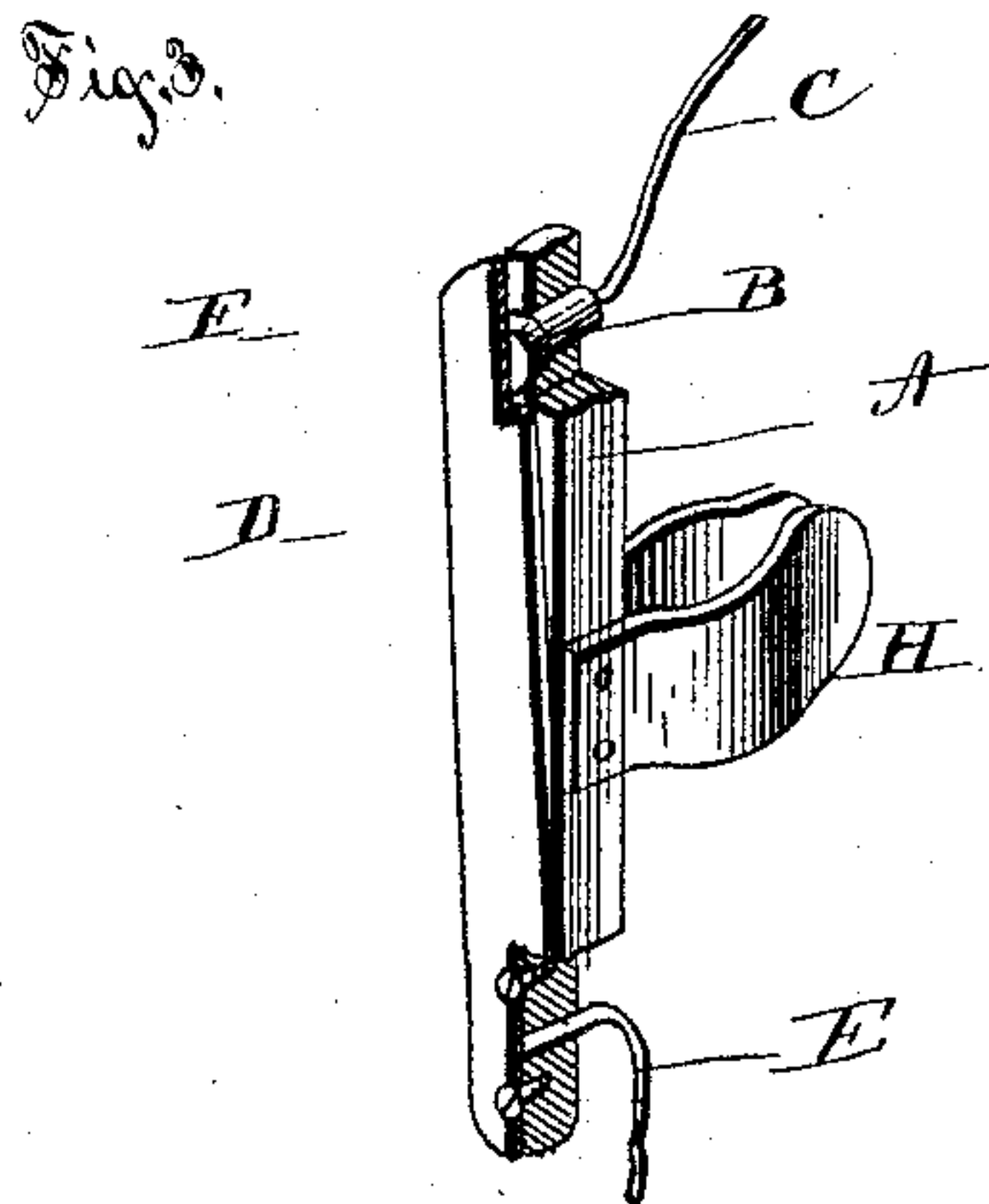
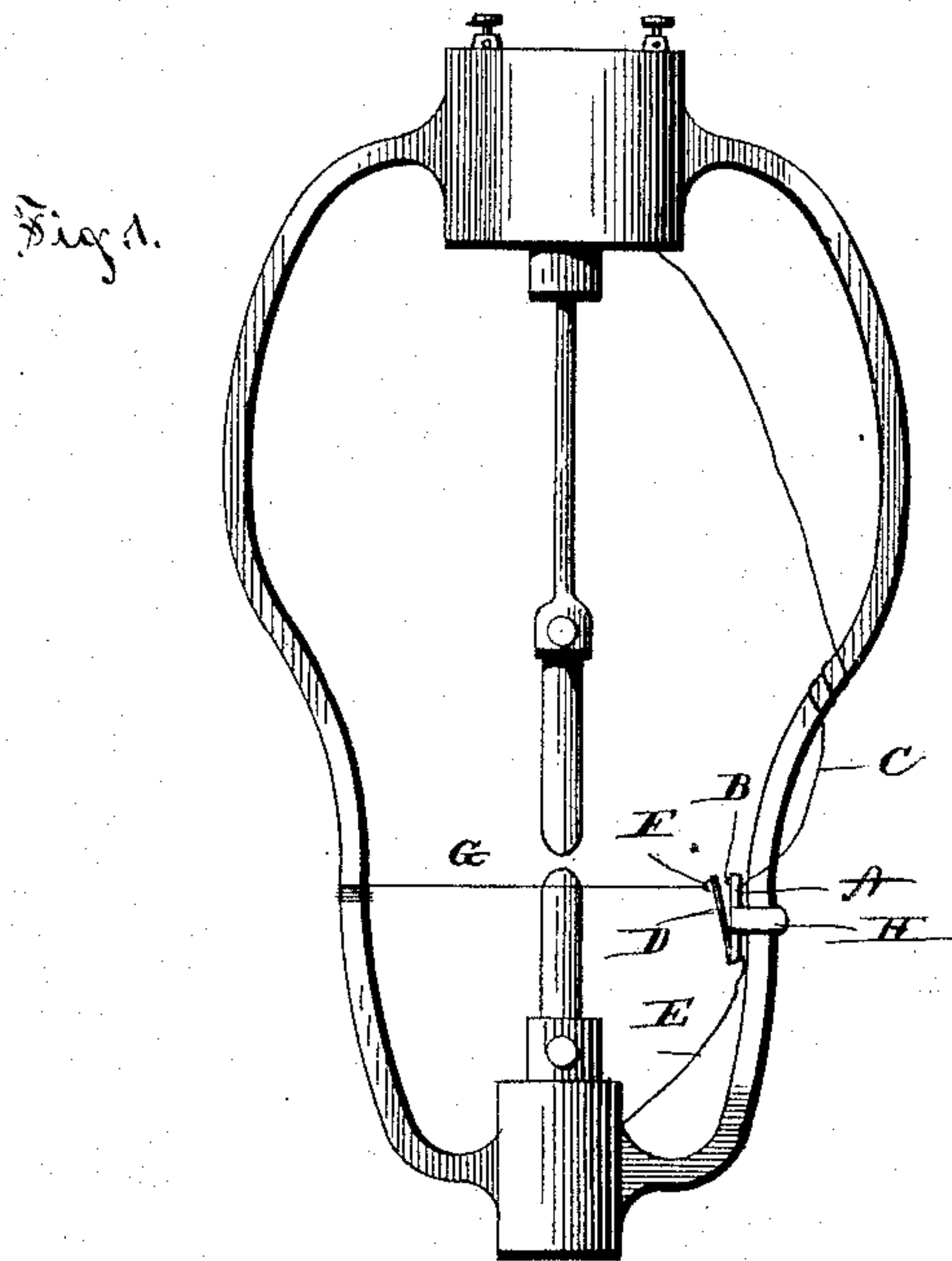
(No Model.)

W. C. WALTER.

CUT-OUT FOR ELECTRIC ARC LAMPS.

No. 354,847.

Patented Dec. 21, 1886.



WITNESSES
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CUT-OUT FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 354,847, dated December 21, 1886.

Application filed August 18, 1886. Serial No. 211,207. (No model.)

To all whom it may concern:

Be it known that I, WILLIE C. WALTER, a citizen of the United States, and a resident of West Point, in the county of King William and State of Virginia, have invented certain new and useful Improvements in Cut-Outs for Electric-Arc Lamps; and I do hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of a globeless electric-arc lamp, showing my improved cut-out attached thereto. Fig. 2 is a similar view of an arc lamp provided with a globe representing my cut-out in connection therewith. Fig. 3 is a partially-sectioned perspective view of a part of that form of cut-out shown in Fig. 1. Fig. 4 is a perspective view of the form of cut-out shown in Fig. 2, a part thereof being shown in dotted lines; and Fig. 5 represents said cut-out applied to an electric lamp in which both carbons advance as they are consumed.

Like letters of reference indicate corresponding parts in the several figures.

My invention has relation to automatic cut-outs for electric-arc lamps; and it consists in the improved construction and combination of parts, as will be hereinafter fully set forth.

The objects of my invention are to provide a safety device for carbon-pointed electric-arc lamps by means of which the burning out of the negative-carbon holder may be entirely obviated, and by means of which any particular lamp in a system may be cut out at any fixed time. These objects I attain by placing a string or a wire of fusible metal in such a position that when the carbons have burned to a certain point the heat from the arc will sever said string or said wire, which severing will release a contact-spring, and thereby cause a low-resistance circuit to be completed between the two carbon-holders, through which circuit the current will pass, instead of through the carbons.

Referring to the accompanying drawings, A represents a piece of vulcanite shaped to suit the locality in which it is to be placed; B, a

contact point or post; C, a wire connecting said contact-point to the upper-carbon holder of the lamp; D, a contact-spring; E, a wire connecting the lower end of said spring and the lower-carbon holder; F, a hook secured to the outside of the upper end of said spring, and G a string or a wire of fusible metal.

In the cut-out device shown in Figs. 1 and 3 the piece of vulcanite is shaped into a bar, to the opposite edges of which are secured spring-clasps H. By means of these clasps said device is rendered readily adjustable upon the side piece of the lamp-frame, to which the device is secured by said clasps. Through the upper end of said vulcanite bar passes the contact-point B, to which the wire C is connected, while through the lower end of said bar is passed the end of the wire E, which is connected to the lower end of the spring D, secured to the face of the bar by one end. The fusible wire G is secured in the hook at the upper end of said spring by one end, and by the other to the opposite side piece of the lamp-frame, and drawn tight enough to hold the spring from contact with the point B.

In Figs. 2 and 4 the device is so modified as to adapt it for use in arc lamps provided with globes, and with this object in view the vulcanite is formed into a plate, through the center of which passes the lower-carbon holder. At one edge of said plate is erected an extensible post, I. At a point on said plate nearly opposite to said post is erected an extensible contact-post, B, which has wire connection with the upper-carbon holder, and at a little distance therefrom and in line with said posts is erected an extensible contact-spring, D, which has wire connection at its lower end with the lower-carbon holder. The fusible wire is then connected to the hook of said spring and to the post I and tightened, so as to draw the upper end of said spring away from the contact-post.

In either device the fusible wire may be placed at any desired height above the lower-carbon holder, the spring-clasps in one and the extensible posts and spring in the other rendering such adjustment ready and easy.

In the lamp represented in Fig. 5 the cut-out is permanently secured to the lower-carbon holder and rises or falls with the same.

When the cut-out is to be used as a safety device the fusible wire is placed at about one inch above the lower-carbon holder, or at such a distance as will cause the cut-out to operate 5 before the heat from the arc can injure said holder. When it is desired to cut a lamp from a circuit at a certain length of time after lighting, said fusible wire is located at a distance 10 below the upper end of the lower carbon, such as will be reached by the receding point of said carbon in the given time. That point being reached the heat severs the fusible wire, which permits the contact-spring to engage the contact point or post, and thus make a 15 circuit of less resistance than that through the carbons, and as the current passes through the circuit of less resistance the arc disappears.

Having thus fully described my invention, I claim—

20 1. The combination, with an electric-arc lamp, of an automatic cut-out consisting of a contact-point having connection with the upper-carbon holder, a contact-spring having connection with the lower-carbon holder and 25 located, together with said point, at one side of the lower-carbon, and a fusible wire connected to said spring and in an insulated manner to the lamp at the opposite side of said carbon, as and for the purpose set forth.

30 2. The combination, with an electric-arc

lamp, of an automatic cut-out consisting of a contact-point having connection with the upper-carbon holder, a contact-spring having connection with the lower-carbon holder and 35 located, together with said point, at one side of the lower carbon, and a fusible wire connected to said spring and in an insulated manner to the lamp at the opposite side of said carbon, said contact-point, spring, and fusible wire being adapted to vertical adjustment, for the 40 purpose specified.

3. The combination, with an electric-arc lamp, of an automatic cut-out consisting of a bar of vulcanite, spring-clasps secured to opposite edges of said bar, a contact-point at one 45 end of the bar, a contact-spring secured at the other end thereof, a hook upon the free end of said spring, a fusible wire attached to said hook and to the opposite side of the lamp, a conductor from said contact-point to the upper-carbon holder, and a conductor from said 50 spring to the lower-carbon holder.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIE C. WALTER.

Witnesses:

LOUIS BAGGER,

GEO. E. FRECH.