

A. D. LUNT.
VAPOR ELECTRIC APPARATUS.
APPLICATION FILED MAY 12, 1904.

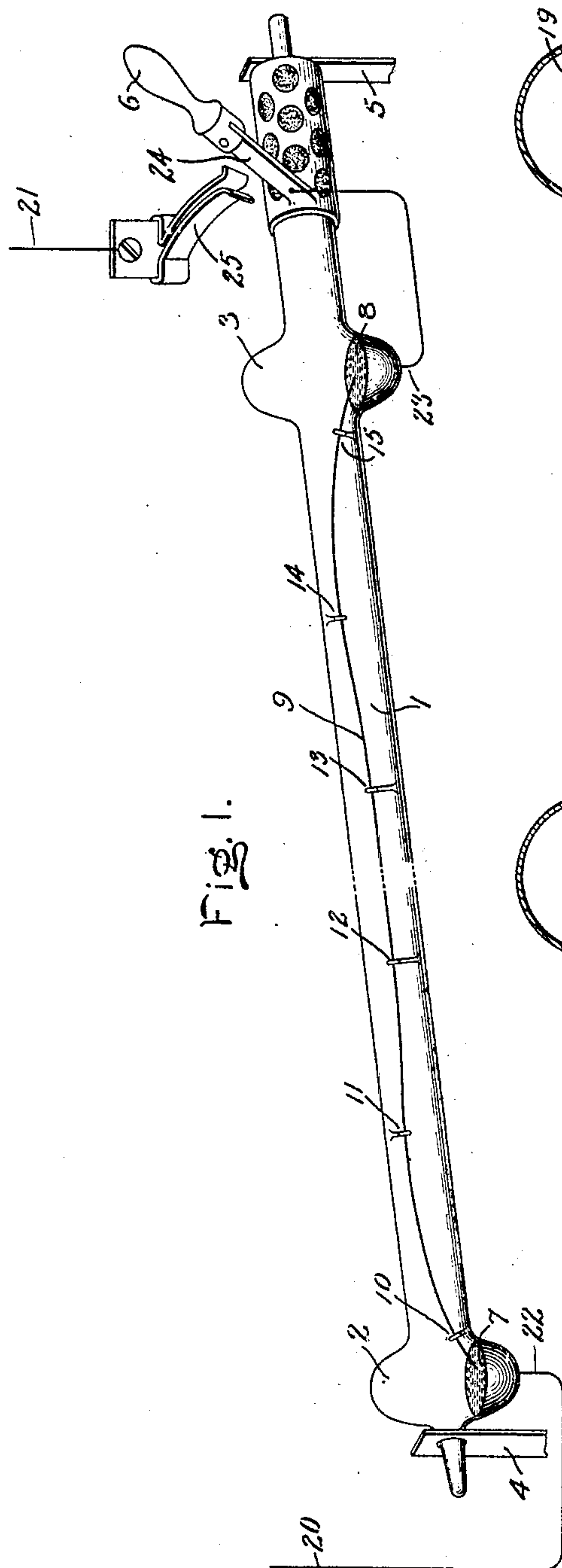


Fig. 1.

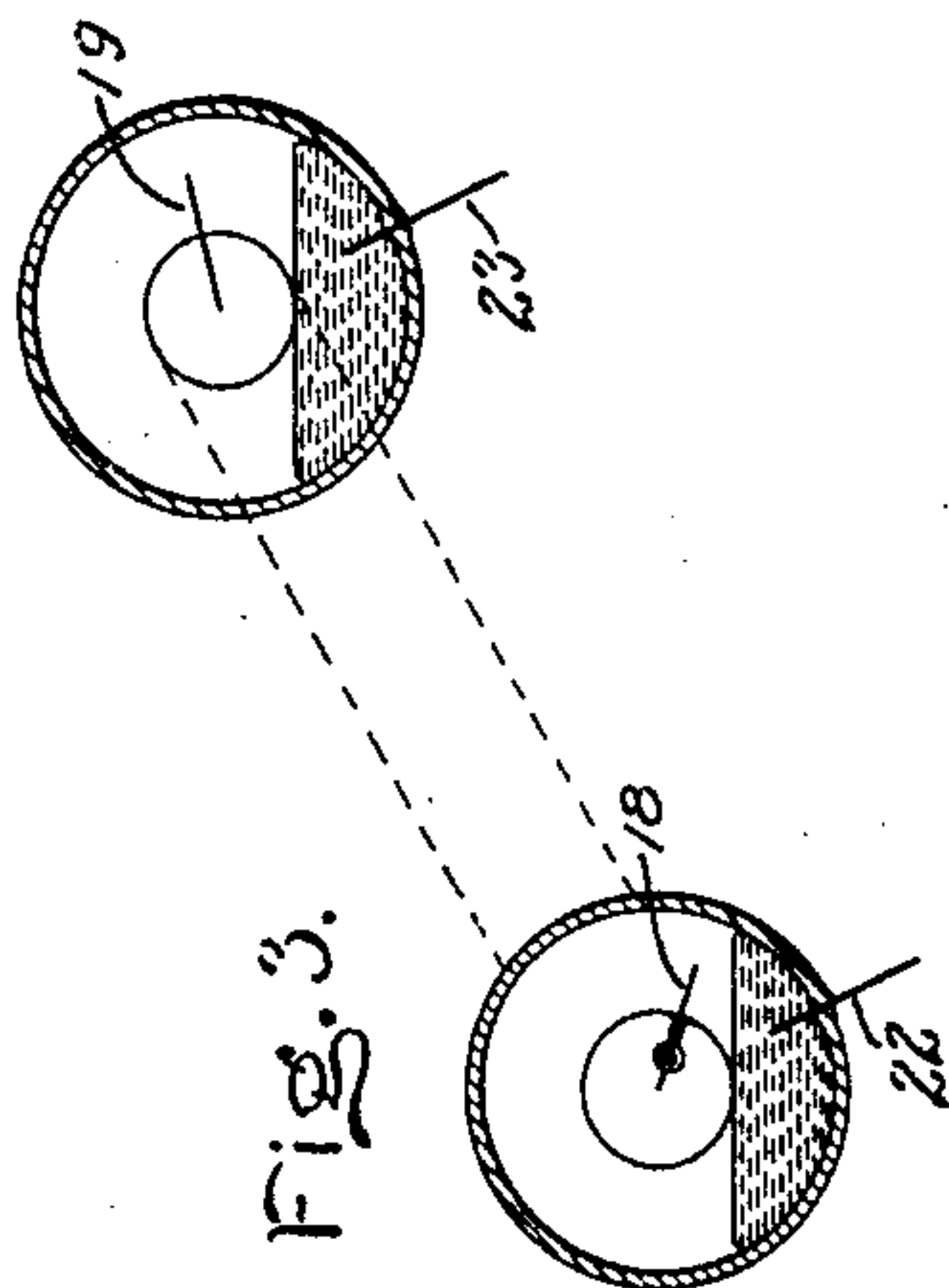


Fig. 3.

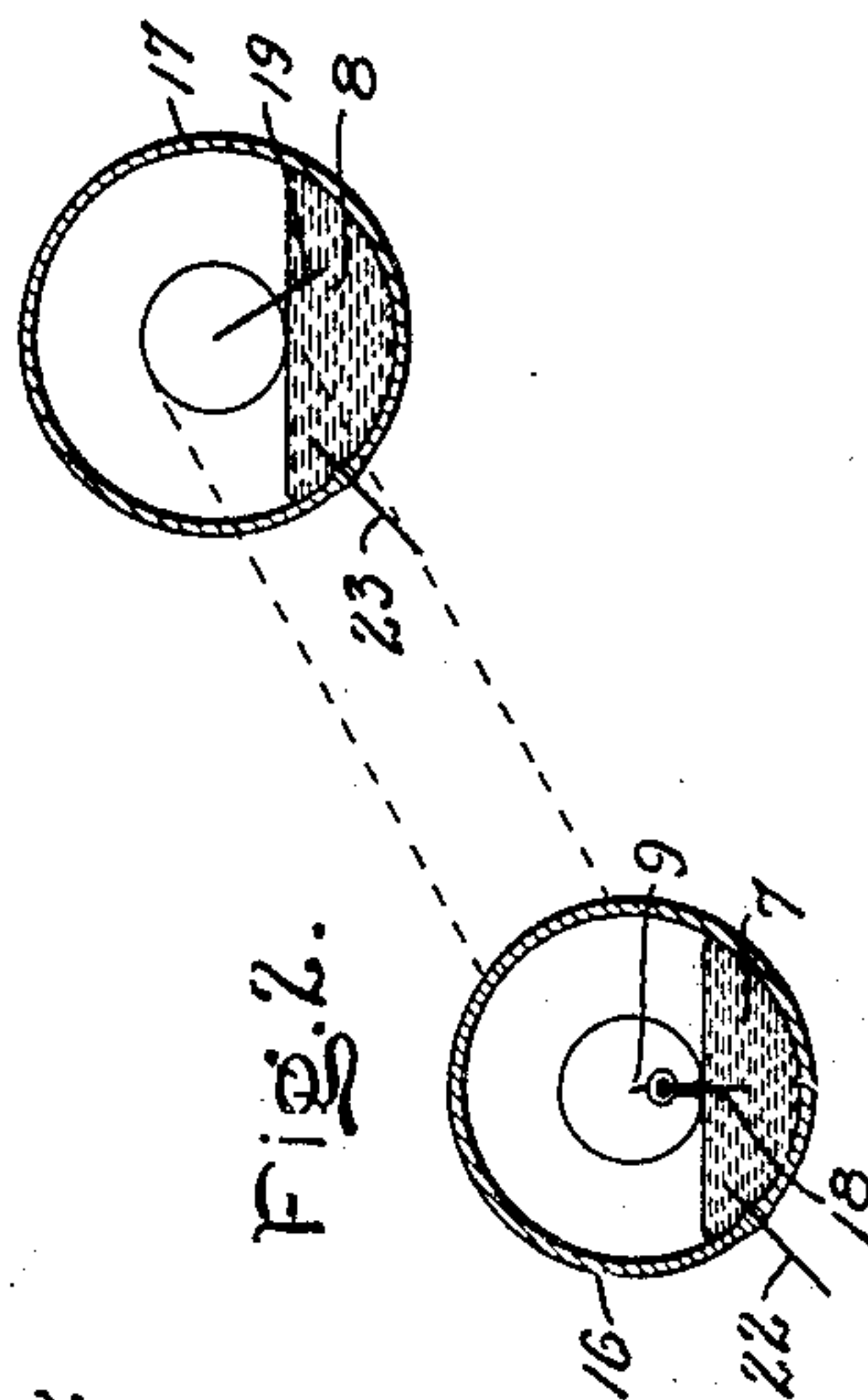


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ALEXANDER D. LUNT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO
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VAPOR ELECTRIC APPARATUS.

No. 803,836.

Specification of Letters Patent.

Patented Nov. 7, 1905.

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To all whom it may concern:

Be it known that I, ALEXANDER D. LUNT, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Vapor Electric Apparatus, of which the following is a specification.

My present invention relates to means for starting vapor electric devices—such, for example, as mercury-vapor lamps, rectifiers, or the like.

In carrying my invention into practice I provide electrodes which before the device is started are electrically connected by a conducting member. In the operation of starting, this member by movement of the apparatus, either of rotation or otherwise, is disconnected from the two electrodes, whereby the initial arc thus produced operates to start the flow of current between the electrodes.

The features of novelty characteristic of my invention are pointed out with particularity in the appended claims. The invention itself, however, will be better understood by reference to the following description, taken in connection with the accompanying drawings, in which—

Figure 1 represents by way of illustration an apparatus embodying my invention, while Figs. 2 and 3 are explanatory diagrams.

Referring to the drawings, 1 indicates the exhausted envelop or container of a mercury-lamp which I have chosen to illustrate my invention. This envelop consists of a tube of indefinite length provided near its opposite ends with bulbs or enlargements 2 and 3 of substantially circular cross-section. The tube 1 is mounted in a slightly-inclined position and so as to be capable of a limited movement of rotation. For this purpose the tube is pivoted or journaled in supports 4 and 5. A handle 6 is provided for rotating the tube.

The electrodes of the lamp consist of bodies of mercury 7 and 8, located, respectively, in the bottom portion of the bulbs 2 and 3. These bodies of mercury before the lamp is started are electrically connected by means of a filament 9, of carbon or other suitable material. This filament is carried by guides—such as 10 to 15, inclusive—and is arranged so that its opposite ends dip into the corresponding bodies of mercury 7 and 8. The ends of the filaments are, so to speak, staggered with respect to

each other. This is indicated perhaps best in the diagrams Figs. 2 and 3. In Fig. 2 the ring marked 16 is a cross-section of the bulb 2, while the ring 17 is a cross-section of the bulb 3. The lower end of the filament 9 may dip, as indicated at 18, directly down into the mercury 7. The upper end 19, however, of the filament dips at an angle into the corresponding mercury-electrode 8. Thus it will be seen that if the lever or handle 6 be pushed so as to rotate the lamp the end 19 of the filament is first removed from the mercury 8 and is followed by the removal of the lower end 18 from the other mercury-electrode 7. The parts then assume the position shown in Fig. 3.

Current may be supplied to the lamp through leads 20 and 21 and may be conducted into the lamp through leading-in conductors 22 and 23. These are preferably located with respect to the filament so that during the limited movement of rotation of the lamp they are never brought above the surface of the respective mercury-electrodes. This is clearly indicated in Figs. 2 and 3.

In order to start the lamp, the handle 6 is pushed so as to rotate the lamp and at the same time to bring the switch-arm 24, to which the handle is attached, into engagement with the fixed switch member 25. As soon as the parts of the switch engage current flows through the lamp through the medium of the filament 9. Upon further movement of the switch the upper end of the filament is rotated out of the mercury 8, and thus interrupts the contact between the upper end of the filament and the mercury 8. An incipient arc is thus formed which extends along the tube, and thus puts the lamp into operation. Further movement of the handle rotates the lower end of the filament out of the mercury-electrode 7, and thus cuts the filament completely out of circuit. With the sequence of operations thus described it is preferable that the current should be of such direction as to make the electrodes 23, where the first break takes place, negative, or, in other words, a cathode. If it is desired to break contact first at the bottom of the lamp, the polarities should be reversed. The object of thus choosing the polarities is to prevent the end of the filament during starting from becoming a cathode, under which condition it would be apt to disintegrate after repeated use.

It will be evident to one skilled in the art.

that various modifications may be made in the embodiment of my invention without departing from the spirit thereof, for which reason I do not wish to be limited to the exact details shown and described.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a vapor electric apparatus, the combination of a rotatable container, electrodes therefor, and a conductor connecting said electrodes and adapted when the container is rotated to break connection at both electrodes.

2. In a vapor electric apparatus, the combination of a container, electrodes therefor, a supply-circuit, a switch-handle for simultaneously rotating said container and closing said supply-circuit, and starting means responsive to said rotation.

3. In a vapor electric apparatus, the combination of a container, electrodes therefor, a supply-circuit, means for simultaneously rotating said container and closing said supply-circuit, and starting means responsive to said rotation.

4. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a conductor connecting said electrodes, the ends of said conductor being staggered with respect to each other.

5. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a filament connecting said electrodes, the ends of said filament being staggered with respect to each other.

6. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a conductor connecting said electrodes and adapted when the container is moved to break connection with said electrodes dissimultaneously.

7. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a filament connecting said electrodes and adapted when the container is moved to break connection with said electrodes dissimultaneously.

8. In a vapor electric apparatus, the combination of a container, electrodes therefor, and a conductor connecting said electrodes and adapted when the container is moved to be disconnected from both electrodes.

In witness whereof I have hereunto set my hand this 10th day of May, 1904.

ALEXANDER D. LUNT.

Witnesses:

EDWARD WILLIAMS, Jr.,
HELEN ORFORD.