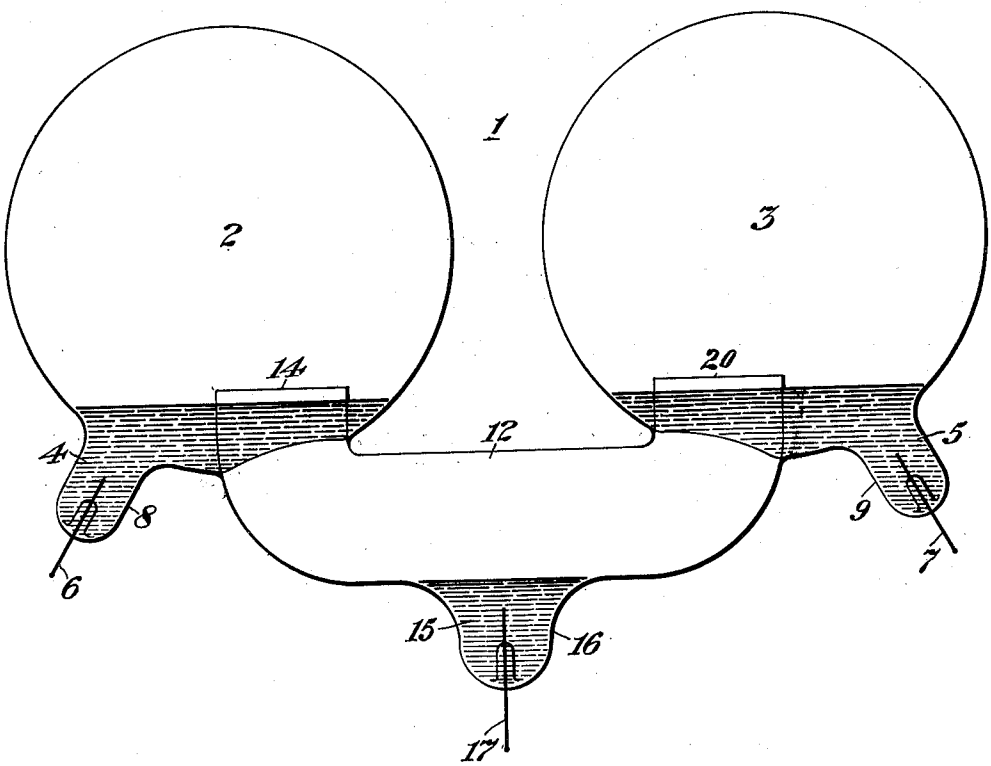
P. C. HEWITT.

VAPOR ELECTRIC DEVICE.

APPLICATION FILED JULY 1, 1905. RENEWED FEB. 19, 1907.

1,110,555. Patented Sept. 15, 1914.



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UNITED STATES PATENT OFFICE.

PETER COOPER HEWITT, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO COOPER HEWITT ELECTRIC COMPANY, OF HOBOKEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

VAPOR ELECTRIC DEVICE.

1,110,555. Specification of Letters Patent. Patented Sept. 15, 1914.

Application filed July 1, 1905, Serial No. 267,981. Renewed February 19, 1907. Serial No. 358,243.

To all whom it may concern:

Be it known that I, PETER COOPER HEWITT, a citizen of the United States and resident of New York, county of New York, State of New York, have invented certain new and useful Improvements in Vapor Electric Devices, of which the following is a specification.

My invention relates to a special construction of electric gas or vapor apparatus of the character in which an electric current is caused to traverse a vapor path between two or more electrodes.

The special features of the invention will be described in connection with the accompanying drawing which illustrates one form of its application.

Referring to the drawing, 1 represents an inclosing chamber of glass or other suitable material. This is here shown as constructed with two enlarged portions or condensing chambers, 2 and 3, respectively, containing electrodes 4 and 5 with which electrical connections are made by means of leading-in wires 6 and 7, entering suitable extensions 8 and 9. The electrodes are here shown as consisting of bodies of mercury or other suitable material, represented at 4 and 5. Intervening between the two enlargements 2 and 3, there is a neck or tubular portion, 12, the ends of which project upward into the enlargements as shown at 14 and 20, the height of these projections being such that the fluid electrodes will not overflow unless there should be an excess thereof in one or the other of the condensing chambers. A third electrode, 15, is shown as being placed in the connecting tubular portion, being here represented as in an extension 16. A leading-in wire, 17, connects therewith.

During the operation of the apparatus, the condensed vaporizable material flows back to the appropriate electrodes. In practice, the central electrode may be employed as a negative electrode, and the remaining electrodes as positive electrodes when, for instance, it is desired to use the device in connection with alternating electric currents. It will be understood, however, that the connections may be variously modified to meet different requirements. Moreover, the central electrode may be omitted, if desired, and the two extreme electrodes used as the positive and negative electrodes. The number of chambers may, as will be readily understood be increased for accommodating additional electrodes when desired.

Any convenient means may be employed for starting a current flow through the apparatus, for instance such methods as set forth in certain patents issued to me September 17, 1901, or other convenient means.

When the apparatus is used under such conditions that the electrodes 4 and 5 are positive electrodes and the electrode 15 is a negative electrode, the location of the said negative electrode in a pocket connected with a central tube joining the two chambers 2 and 3, is a convenient one, while the arrangement of the mouths of the tubes 14 and 20 are thus easily arranged within the chambers and adapted to receive any overflow in case an abnormal condensation takes place in one or the other of the chambers 2 and 3. The overflow is then carried to the negative electrode 15, and by vaporization is carried back into the chambers whereby it is made possible to maintain the electrodes practically uniform by the automatic action of the device.

I claim as my invention:

1. In a gas or vapor electric apparatus, a container having multiple symmetrical condensing chambers, a connecting portion having projections extending into the said chambers, positive electrodes located within the respective condensing chambers, and a negative electrode located within the connecting portion.

2. In a gas or vapor electric apparatus, a container having multiple condensing chambers, a tubular connection between the chambers, a positive electrode in each chamber, and a negative electrode in the said connection, the tubular connection being extended within the condensing chambers through the positive electrodes, and above the surface thereof.

3. In a gas or vapor electric apparatus, a container having multiple condensing chambers, a positive electrode in each chamber, and a negative electrode in a well below the chambers, the well being formed by a tubular connection, the ends of which extend through the positive electrodes within the condensing chambers, and above the surface of the said positive electrodes.

4. In a gas or vapor electric apparatus, a container having multiple condensing chambers, a positive electrode in each chamber,

and a negative electrode in a well below the chambers, and tubular connections leading from the negative electrode through the positive electrodes to points above the surface thereof.

5. In a vapor electric apparatus, an exhausted envelop having a plurality of anodes each located in a separate chamber, a cathode, and a tube forming a portion of the said envelop and confining the discharge from the cathode and extending past the openings in the walls of the chambers containing the anodes.

6. In a vacuum vapor electric apparatus, including a cathode and a plurality of anodes, a condensing chamber having a contracted opening, and means for directing the discharge or blast from the cathode toward said opening.

7. A vapor rectifier having anodes and a vaporizable cathode, a chamber surrounding said cathode, a plurality of arc tubes diverging from said chamber, and a condensing chamber opening into each of said arc tubes and located directly in the path of arcs to said cathode.

Signed at New York, in the county of New York, and State of New York, this 29th day of June, A. D. 1905.

PETER COOPER HEWITT.

Witnesses:
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