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STARTING DEVICE FOR VAPOR APPARATUS.

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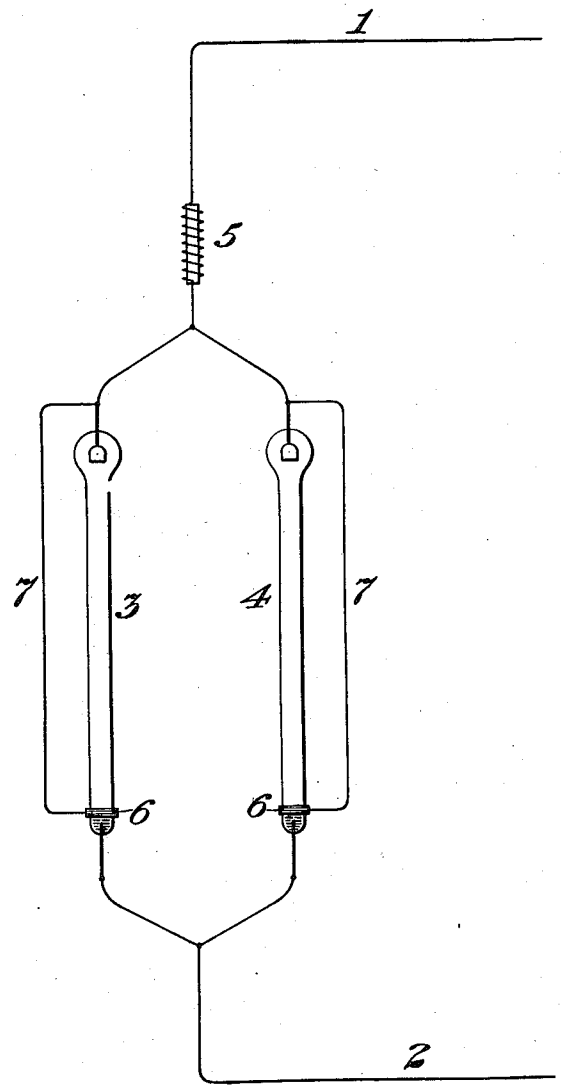
1,069,696. Patented Aug. 12, 1913.



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UNITED STATES PATENT OFFICE.

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STARTING DEVICE FOR VAPOR APPARATUS.

1,069,696. Specification of Letters Patent. Patented Aug. 12, 1913.

Application filed June 4, 1904. Serial No. 211,079.

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 Starting Devices for Vapor Apparatus, of which the following is a specification.

Vapor apparatus such, for instance, as a vapor electric lamp or a vapor converter can be started by providing a reactance device such as an ordinary choke coil in series with the apparatus and rupturing by a suitable device such as a quick-break switch, a shunt circuit connected between the choke coil and the vapor device, and extending to the main circuit beyond the device.

I have found that it is possible to utilize in place of the quick break switch a vapor apparatus which may, or may not, be similar to the apparatus which is to be started by the process described. In practice I may supply for a space which is to be illuminated by a vapor electric lamp, for example, a plurality of such lamps arranged in parallel, each lamp circuit forming a shunt connected between a choke coil or other reactance device and the opposite side of the circuit. Assuming that there are two such lamps available for lighting a given room or inclosed space, in case one of the lamps should prove unstable in its action and be extinguished, the effect upon the choke coil or other reactance device would be such as to cause a high potential current to be impressed upon the other lamp, which would then be started and serve to illuminate the room or inclosed space.

It is not necessary that the vapor devices thus employed should have the same characteristics, as one of them may be of smaller capacity than the other and may be utilized merely for the preliminary starting by any suitable means, such, for example, as are disclosed in my United States patents of September 17, 1901, while the other may be suited for operating continuously upon a given circuit, being started by the extinguishment of the first lamp or other vapor device.

The invention is illustrated in the accompanying drawing, which is a diagram of a set of circuits and apparatus suited to carrying out my invention.

In the drawing, 1 and 2 are the mains of an electric circuit. Between the same are connected two lamps or other vapor devices, 3 and 4, and a choke coil or other reactance device, 5. These vapor devices are arranged in parallel between the choke coil and one side of the main circuit. The preliminary starting of one of the lamps may take place by any suitable means. Should the device originally started prove unstable, or should it be designed so as to have unstable characteristics under the existing conditions of the circuit, and should current cease to flow through this lamp or other vapor device, the rupture of the circuit in the vapor device is so abrupt as to create in the choke coil 5 an impulse of high potential which will be sufficient to start the other lamp or vapor device.

We may assume that the lamp 3 is a lamp having unstable characteristics and that such a lamp is liable to be extinguished after being started. Should this lamp go out, the high potential impulse from the choke coil 5 will start the other lamp which will then continuously operate and light the space for which the lamp was intended. Should this lamp in turn be extinguished, the other lamp will be lighted in a similar way and by the presence of the two devices, a continuous lighting of the space for which the lamps were provided will be assured.

At 6, 6 are starting bands near the negative electrodes of the devices 3 and 4 which starting bands are connected by conductors 7, 7 to the positive side of the circuit as shown.

I claim as my invention:—

1. An apparatus for securing a momentary rise of potential comprising a vacuum vapor electric device, including an hermetically sealed and exhausted container, a plurality of electrodes therein, one of which is a vaporizable cathode, together with an inductance in series with said device, whereby upon the cessation of current in the device an impulse is produced by the said inductance, and a circuit in shunt to said device adapted to utilize said impulse.

2. In a system of electrical distribution, the combination with a vapor electric device comprising an exhausted container and suitable electrodes therein, of a supply circuit therefor, said supply circuit being adapted to supply the energy for unstable operation

in said device together with a circuit in shunt to said device, and an inductance in series with said device and said shunt circuit.

3. The combination with a vapor electric device, and a reactance device in series therewith, of a second vapor device forming part of the system and electrical connections whereby on the extinguishment of one of the said vapor devices a starting current shall be developed for initiating the flow of current through the other device.

4. The combination with an apparatus requiring a momentary impulse of high potential, of an inductance in series therewith, together with means for abruptly interrupting a current flowing in said inductance for the starting of said apparatus, said means comprising an hermetically sealed and exhausted container, and a suitable anode and a suitable vaporizable cathode therein.

5. The combination with a vapor device and a reactance in series therewith, of a shunt circuit upon the vapor device, the said shunt circuit including a second vapor device, whereby on the interruption of the circuit in either vapor device will cause in the reactance device a high potential current adapted to start the other vapor device.

Signed at New York, in the county of New York, and State of New York, this 1st day of June A. D. 1904.

PETER COOPER HEWITT.

Witnesses:

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