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ELECTRIC MERCURY VAPOR LAMP.

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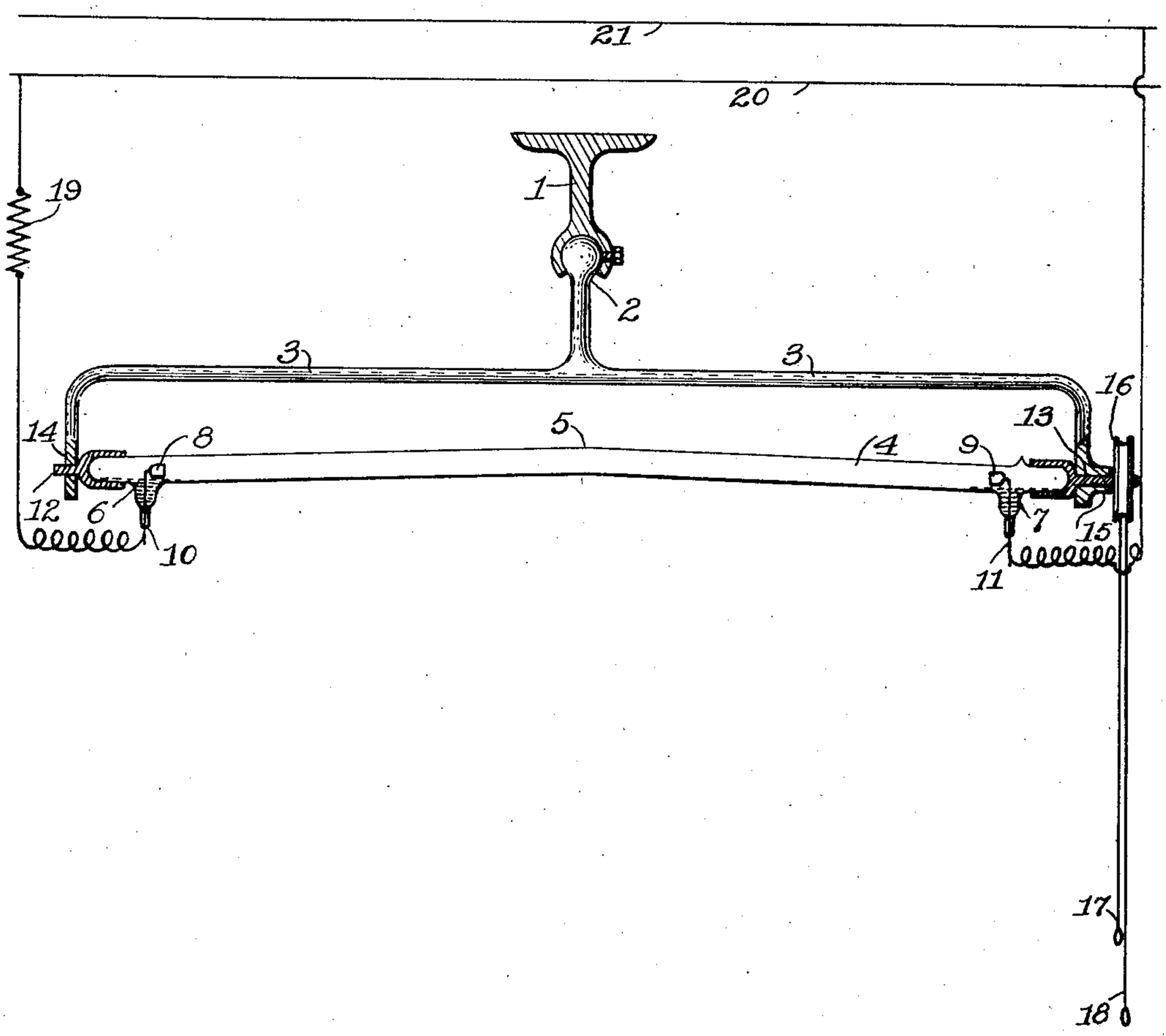
998,223. **Patented July 18, 1911.**



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ELECTRIC MERCURY-VAPOR LAMP.

998,223. Specification of Letters Patent. **Patented July 18, 1911.**

Application filed December 14, 1904. Serial No. 236,875.

To all whom it may concern:

Be it known that I, JOHN M. ANCK, a citizen of the United States, residing in the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Electric Mercury-Vapor Lamps, of which the following is a specification.

My invention consists of an improvement in electric mercury vapor lamps, as will be hereinafter fully described and claimed.

The object of my present invention has been to produce a starting device for electric mercury vapor lamps. I secure this result by using an inclosed chamber or glass tube and bending the tube in the center at such an angle as to allow the mercury contained in the tube to run to both ends and to contact with electrodes at each end of the tube, thereby establishing a current of electricity through the stream of mercury, and as the mercury flows to both ends of the tube a break is made in the mercury stream and an arc is formed which instantly establishes the main arc, and the tube then becomes luminous.

Referring to the drawings: The hanger 1 having a ball and socket joint 2, which allows the frame 3 composed of steel tubing to be adjusted in any position. The joint 2 turns with sufficient friction to remain in any position to which it is set and is not affected by the strain upon one side of the suspended frame which results from the effort to turn the pulley 16. While this joint is not essential to my invention it is quite convenient as but little care need then be taken in placing the hanger 1. Any variation from its proper placing through unfavorable supports, haste or other causes can be readily, quickly and accurately corrected by means of the joint. The tubing forms a support for the mercury container, which is the lamp tube 4. This tube is exhausted to a high vacuum and is bent in the center at 5 at such an angle as to allow the mercury 6 and 7 to flow to both ends of the tube when the position of the tube is as shown in the drawing; 8 and 9 are the electrodes composed of either iron platinum or nickel and the electrode wires 10 and 11 sealed into the glass walls of the tube is preferably platinum; to each end of the lamp tube is securely fastened a shaft 12 and 13 which is adapted to rotate in the journals 14 and 15 of the frame 3; the shaft 13 is extended to accommodate a pulley 16 to which it is fastened; the pulley 16 has two cords 17 and 18 fastened to it which are used to rotate the lamp tube and give it a half turn that brings the bend in the tube either up or down, and therefore causes the mercury to flow to the center when the bend is down, and to cause the mercury stream to flow to each end when the bend is up, as shown in the drawings; 19 is a resistance in series with the lamp; 20 and 21 are the line wires.

The operation of the lamp is as follows: "The circuit as shown in the drawing is closed and the lamp is in operation." In order to start the lamp into operation the tube is given a half turn in order to bring the bend 5 down so that the mercury in each end of the lamp will run to the center; it is then given another half turn by pulling the cord which brings the bend up as shown in the drawing, and the mercury then divides, half going to each end of the tube, but the stream of mercury is not broken until after each end comes into contact with the electrodes 8 and 9 establishing the circuit, then the mercury stream breaks and an arc is formed which instantly lights up the whole tube.

As various modifications may be made in the embodiment of my invention without departing from the spirit thereof, I do not desire to be limited to the particular construction shown, for instance the electrodes 8 and 9 may be omitted from the lamp and the mercury electrodes 6 and 7 used in their place.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. In an electric vapor lamp, a fluid container longitudinally bowed, a fitting on each end thereof, a pin upon each fitting, a yoke having bearings therein for the pin, means engaging one pin for rotation of the container, an electrode in proximity to each end of the container, a fluid in the container, and means for applying differences of potential to the electrodes.

2. In an electric vapor lamp, a fluid con-

tainer higher at its center than at either end, a support therefor, a pivotal joint in said support out of line with said container, fluid in said container, and means for independently rotating the container.

3. In an electric vapor lamp, a curved fluid container normally having its center higher than either end thereof, fluid in the tube, means for rotating the container to cause the fluid to flow toward its center, electrical connections at the two ends of the container, and means for altering the relative heights of the two ends of the container.

4. In an electric vapor lamp, a curved container normally having its center higher than either end, means for rotating the container, an electrode at one side of the container near each end thereof, and a fluid in the container.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN M. ANCK.

Witnesses:
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