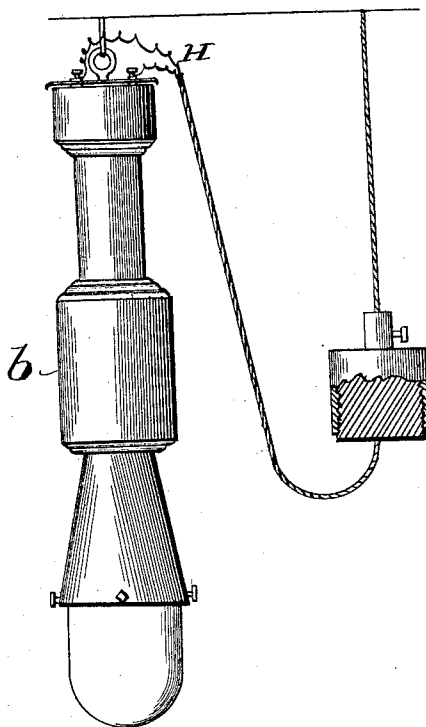
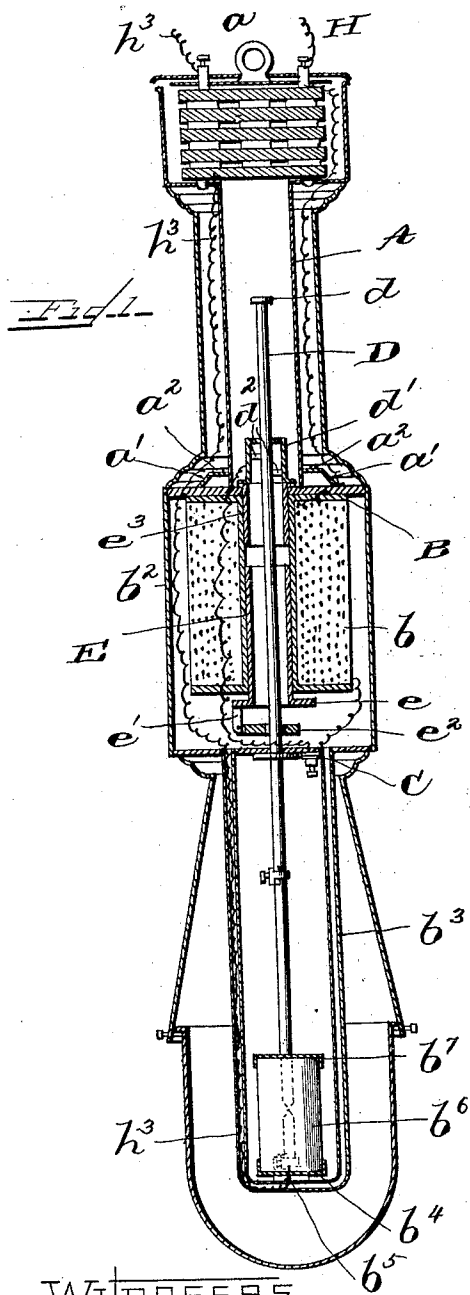


(No Model.)

J. E. MORRIS.
ELECTRIC ARC LAMP.

No. 569,881.

Patented Oct. 20, 1896.



WITNESSES.

G. A. Pauberschmidt,
August Donath.

INVENTOR.

James E. Morris
By Edwin S. Clarkson,
his atty

UNITED STATES PATENT OFFICE.

JAMES E. MORRIS, OF CHESTER, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS
TO CHARLES E. MORRIS AND JAMES H. DENIS, OF SAME PLACE.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 569,881, dated October 20, 1896.

Application filed April 2, 1896. Serial No. 585,959. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. MORRIS, a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Electric Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to electric-light mechanism; and it consists of an incandescent-arc light to burn as a single lamp as contradistinguished from those burning in series.

It consists, further, in an arrangement whereby the act of hanging the lamp in position will place it in circuit ready for use.

In the drawings, Figure 1 is a front elevation of my invention, parts being broken away and in section. Fig. 2 illustrates my invention hung in position connected to an incandescent-lamp socket.

A represents the upper part of the frame of the lamp, provided with a ring a , by means of which the lamp is suspended.

a' is a ring secured to the frame A.

B is the magnet-frame, secured to the ring a' by means of the screws a^2 .

b is the magnet, formed of insulated wire coiled around the frame B.

b^2 is a casing around the magnet, to the lower part of which is connected the tubular frame b^3 . In the bottom of this frame b^3 I secure a globe-socket b^4 , in which a carbon-holder b^5 is secured.

b^6 is the globe, and b^7 the top of the globe, said top being provided with a central aperture, to be hereinafter referred to.

C is a switch located in the bottom of the casing b^2 .

D is the carbon-rod, having a head d .

d' is a frame consisting of two standards and a cross-piece connecting said standards, the cross-piece having a central aperture through which the carbon-rod is adapted to pass, said frame being secured on the ring a' . The object of this frame is to guide the carbon-rod and limit its downward movement, the aperture in the cross-piece being smaller than the head d of the carbon-rod.

d^2 are brushes connecting the frame d' with the carbon-rod.

E is the core, having an annular flange e , from which extends a depending lug e' , to which is hinged a disk e^2 , provided with a central aperture through which the carbon-rod passes. e^3 is a tubular piece of metal having a flared head, said piece fitting in the opening in the magnet-frame above the core, the flared head preventing the piece e^3 from entirely slipping through the opening.

F are the carbons, the upper carbon passing through the central aperture of the cover b^7 of the globe.

G is the resistance of the lamp.

The electric current passes into the lamp through the wire H to the magnet b , thence to the switch C through the wire h , thence through the wire h' to the frame d' , thence through the brushes d^2 to the carbon-rod D, thence through the upper and lower carbon to the wire h^3 , thence through the resistance to the wire h^3 . The core E by the force of the axial magnetism thus created is drawn up within the cavity of the helix, thus drawing up the disk e^2 until by its tangent impingement against the rod D it clamps the rod and also lifts it up to a certain distance. So long as this impingement against the rod is maintained it will be firmly held from moving through the ring. When the electric current is not on, the carbon-rod may readily slide through the ring e^2 and the core, whereupon the force of gravity will cause the upper carbon to rest upon the lower carbon, thus bringing the various parts into a closed-circuit position.

If a current of electricity is passed through the lamp, it instantly operates to lift the carbon-rod D, thus separating the carbons and producing the electric light. As the carbons burn away, thus increasing the length of the voltaic arc, the strength of the current is diminished, owing to the increased resistance. This weakens the magnetism of the helix, and, the force of gravity being greater than the magnetic force, the core and carbon move downward until the resultant shortening of the voltaic increases the strength of the current and stops the downward movement.

From the foregoing it will be seen that the carbons are constantly maintained in a proper position with respect to each other automatically.

5 What I claim, and desire to secure by Letters Patent, is—

10 In an electric lamp of the character described, the magnet, a core, an annular projection from the bottom of said core, a depending lug integral with said projection, a disk having a central aperture and hinged to said lug, the tubular metallic piece e^3 having a flared head, located in said magnet-frame above the core, standards extending from said

frame connected at the top by a cross-piece 15 having a central aperture, a carbon-rod having a head formed on its upper end brushes d^2 connected respectively on different sides of the frame and extending inwardly from the same, whereby they engage different sides of 20 the carbon-rod, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES E. MORRIS.

Witnesses:

J. M. ALLEN,

C. HARRY ANDERSON.