

(No Model.)

A. C. SEIBOLD.
ELECTRIC ARC LAMP.

No. 580,734.

Patented Apr. 13, 1897.

Fig. 1.

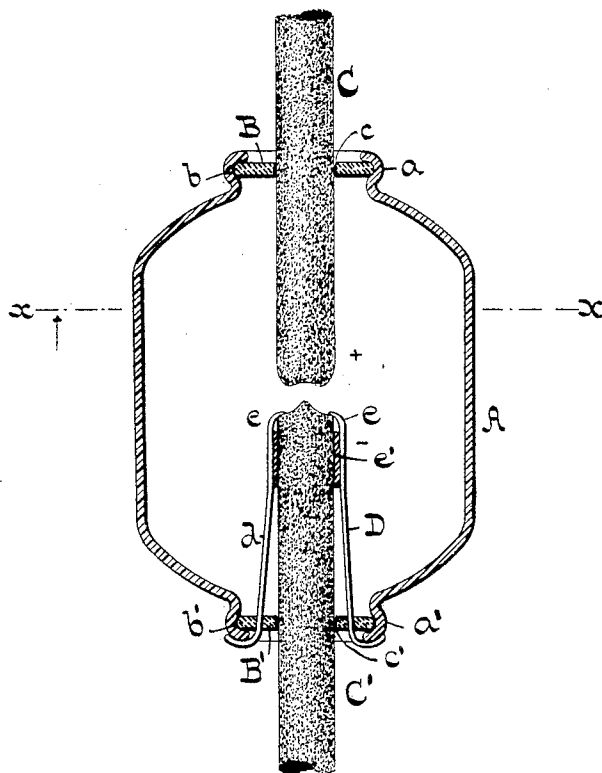
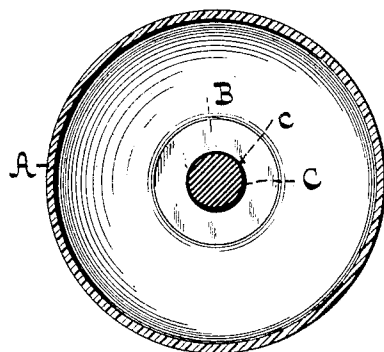


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBERT C. SEIBOLD, OF MOUNT VERNON, NEW YORK.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 580,734, dated April 13, 1897.

Application filed May 11, 1892. Renewed July 7, 1894. Serial No. 516,855. (No model.)

To all whom it may concern:

Be it known that I, ALBERT C. SEIBOLD, a citizen of the United States, and a resident of Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Electric-Arc Lamps, of which the following is a specification.

My invention has reference to improvements in electric-arc lamps, and has for its object to prolong the life of the carbons by protecting the heated carbon-points from the surrounding air.

To this end my invention consists in inclosing the carbon-points in a transparent or translucent globe having openings for the passage of the carbons and causing said globe to be adjusted with the arc as the carbons burn away, all of which is more fully pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical central section of a globe constructed and arranged according to my invention. Fig. 2 is a horizontal section in the plane xx , Fig. 1.

Similar letters indicate corresponding parts throughout the several views.

In the drawings the letters C and C' designate the upper and lower carbons of an electric-arc lamp constructed and arranged in any usual manner.

The globe A is made considerably smaller than the ordinary globe and is provided at its top and bottom with contracted portions or necks $a a'$, having therein annular recesses, as $b b'$, into which are fitted disks B B', made of asbestos or other flexible material suitable for the purpose. These disks have openings, as $c c'$, therein to permit the carbons to be passed therethrough, said openings being made of just sufficient diameter to permit relative motion between the carbons and the globe.

The packing B B' is air-tight as against ordinary external air-pressure, but permits the escape of the gases produced by the arc when their pressure is more than that of the external atmosphere, thus performing the function of an outwardly-opening valve. When the glass of the transparent or translucent envelop assumes, by reason of the heat of the

arc, a whitish color, the appearance of the light is as though the lamp were filled with luminous gases.

Any suitable means may be employed for the purpose of supporting the globe about the arc and to adjust the same with the downward movement of the arc as the carbons burn away, so as to have the arc at all times approximately in the center of the globe.

In the drawings I have shown the globe secured to a support D, which engages the top of the lower carbon C' and moves downward as the latter disintegrates or burns away. This support consists of two or more metallic arms d , (copper being preferred,) having hooks e at their upper ends which rest upon the top of the lower carbon C', while their lower ends are passed through the disk B' and bent over to engage with the neck a' of the globe. The arms are united by a metallic ring e' , which fits loosely about the lower carbon. It is evident, however, that in place of effecting the adjustment of the globe in the manner described it could be effected by suspending the globe and causing it to descend by the movement of the upper carbon. Of course in this latter case intermediate mechanism would be necessary to feed the globe downward in a proportionate rate, say about two-thirds that of the carbon. The ends of the globe being practically air-tight, the heated carbon-points are protected from the surrounding air, thus retarding combustion and greatly prolonging the life of the same.

The disks B B', fitted within the annular recesses $b b'$ in the necks $a a'$, constitute what may properly be termed "valves," as they operate to exclude (practically speaking) the ingress of air under ordinary external pressure, while permitting the egress or escape of the gases, as hereinbefore stated; and it is believed from practical experience with the construction shown that I have produced for the first time in this class of inventions an arc-lamp in which the ingress of air and the egress of the gases are so controlled as to prolong the life of the carbons and to secure steadiness and intensity of light, and therefore I do not wish to be limited to the precise means shown of guarding the carbons from the surrounding atmosphere and at the same time permitting the escape of the gases re-

sulting from the combustion of the carbons, but, on the contrary, I may employ any other suitable devices other than the asbestos disks shown which will operate in substantially a
5 like manner to produce the desired results.

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

1. An arc-lamp having the electrodes around the arc inclosed in a small transparent or translucent normally air-tight casing,
10 said casing being provided at one or both of its ends with closures engaging the electrodes, one or both of which constitute valves operating substantially as and for the purposes set
15 forth.

2. In an arc-lamp, the combination of a

transparent globe, flexible perforated disks closing the globe at top and bottom and encircling the carbons to form substantially airtight closures permitting a movement of the
20 globe relative to the carbons, and means for adjusting the globe with the consumption of the carbons, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of May,
25 1892.

ALBERT C. SEIBOLD.

Witnesses:

KLAS H. TERNSTEDT,
JOSEPH J. MALLE.