

K. COSIOLKOFKY.
ARC LAMP.
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1,007,674.

Patented Nov. 7, 1911.

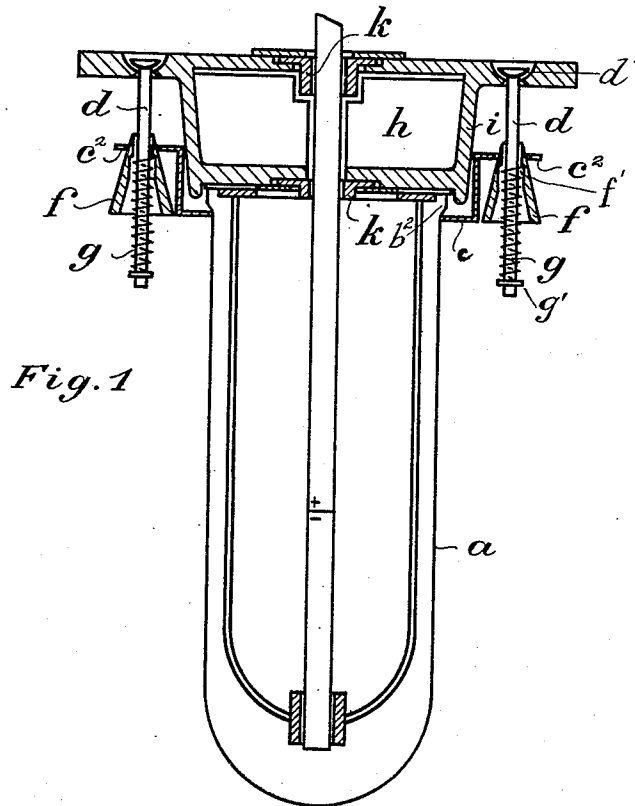
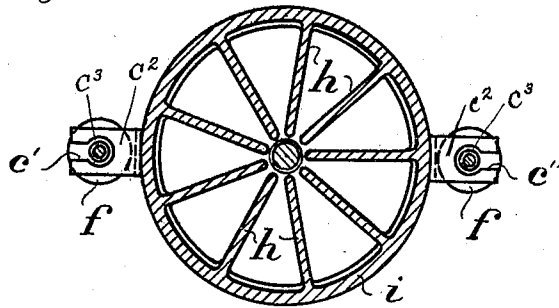


Fig. 1

Fig. 2



Witnesses.
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KARL COSIOLKOFKY, OF VAALS, NETHERLANDS.

ARC-LAMP.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, KARL COSIOLKOFKY, a citizen of the German Empire, residing at 39 Tentstraat, Vaals, Netherlands, have invented a certain new and useful Improvement in Arc-Lamps, of which the following is a full and exact description.

This invention relates to an improvement in (electric) arc lamps and one of the objects thereof is to provide regulating means, whereby the supply of oxygen to the combustion chamber is normally reduced to the lowest possible degree.

Another object of the present invention is to provide means which at times of emergency will permit the explosive gases, which have gathered in the combustion chamber to have free communication with the surrounding atmosphere, and thereby prevent the destruction or breaking of the arc globe.

By the novel construction of my invention, whereby the amount of oxygen, which communicates with the electrodes, is reduced to a minimum, the combustion of the electrodes will be much slower and therefore the life of said electrodes will be relatively prolonged. This result is attained by providing a series of heating wings or plates, located in a hollow chamber, which is arranged above the arc globe, and in such a position that substantially all of the incoming air must pass therethrough.

In the accompanying drawings: Figure 1 is a view in vertical section, of an arc lamp embodying my invention. Fig. 2, is a cross-sectional view, of the same.

Like letters of reference indicate like parts throughout the different views.

Referring more specifically to the drawing, wherein the preferred embodiment of my invention is shown; the letter *a* designates the arc globe; the open or upper end thereof, being provided with an outwardly extending flange *b*². A ring member *c* is adapted to engage said arc globe just below the flanged or flared portion *b*². This ring has a pair of outwardly extending projections or ears *c*², which are provided with slots *c*¹, the said slots terminating in enlarged openings *c*³. The suspended pins or rods *d*, which have substantially ball and socket connection with the lamp support *i*, as at *d*¹, are adapted to loosely engage in the enlarged terminals *c*³ of the slots *c*. Tapering ferrules *f* are slidably mounted on said rods, the upper end thereof adapted to

enter the enlarged terminals of the slots *c*, whereby the pins *d* will be held from displacement. Spiral or coil springs *g* are mounted on these rods, the lower ends thereof abutting against any suitable abutment *g*¹ which may be secured to the lower ends of the pins *d*; while the upper ends thereof engage a notch *f*¹, formed on the inner face of the said ferrules. In assembling the above named parts, the rods or pins are placed in position in the support *i*. The flanged ring is then placed on said pins and the tapering ferrules are mounted thereon so that the upper or tapered ends thereof will enter the enlarged terminals of slots *c*¹, in the ring *b*, whereby the pins will be held from displacement. The spiral springs are then forced on said pins the upper ends thereof engaging the inner face of said ferrules. The springs are then compressed and abutments secured to the lower extremity of the pins. It will be seen the springs which will normally be under compression will engage the ferrules and normally force them upward. The ring *b* which carries the arc globe, will be carried upward by the ferrules until the flared or flanged portion of said arc globe comes in contact with the lower face of the lamp support. A suitable packing *P* may be interposed between the top of the globe and the support *i*, whereby a substantially air tight joint will be formed, between the globe and lamp support.

The globe support or hanger, consists of a casing *i* which is provided with a chamber *i*². Heating ribs or plates *h* are located in said chamber and are made integral with the side walls of said chamber. As shown in Fig. 2 the said ribs *h* are radially arranged in said chamber, the inner or converging ends thereof, terminating short of the center, whereby a substantially cylindrical opening is formed.

The upper and lower faces of the casing *i* are provided with openings, which register with the annular space formed by terminating the heating ribs *h* short of the center. The upper or positive electrode is inserted through these openings and is adapted to be fed downward. Movable guides *k* are secured about the openings formed in the casing *i* and are adapted to engage the positive electrode. It will be understood that these guides, although engaging the electrode are adapted to follow all movements as well as the bending thereof.

Extending downward from the lamp support i is the negative carbon holder s^2 , which may be of any suitable construction. It will be seen that all air which tends to enter the carbon or combustion chamber must pass between the carbon m and the bushes or guides K . The air upon entering the heating chamber will come in contact with the heating plates h , and will be intensely warmed. It will further be noted that the outflowing gases from the combustion chamber must pass out through the heating chamber; and thus the outflowing gases will commingle and be thoroughly mixed with the incoming air. The result of this mixing of the incoming air, with the outflowing gases is that the incoming air will be thoroughly heated, so that any air which may finally enter the carbon chamber will not tend to promote the combustion of the electrodes. Under certain conditions the carbon chamber becomes filled with explosive gases, causing an explosion to take place which ordinarily destroys, and shatters the inclosing arc glass. Applicant overcomes this objectionable feature, by yieldably holding the arc globe in contact

with the lamp support, so that upon the gases exploding, the globe will be displaced by the force of the explosion and the gases permitted to escape to surrounding atmosphere, and immediately thereafter the globe will be returned by means of the springs g .

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

In an arc lamp, a support, suspended arms having ball and socket connections with said support, a globe forming a carbon chamber, an annular member slidably mounted on said arms, and in engagement with the globe, a conical shaped ferrule slidably mounted on each of the suspended arms beneath the annular member, the tapered ends thereof projecting through openings formed in the annular member, and spiral springs constructed to normally hold the ferrules in position, whereby the pins will be held against accidental displacement relative to the annular member.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."