M. A. ROSS.

ELECTRIC ARC LAMP.

APPLICATION FILED MAY 19, 1913.

1,118,684. Patented Nov. 24, 1914.

Fig. 1.

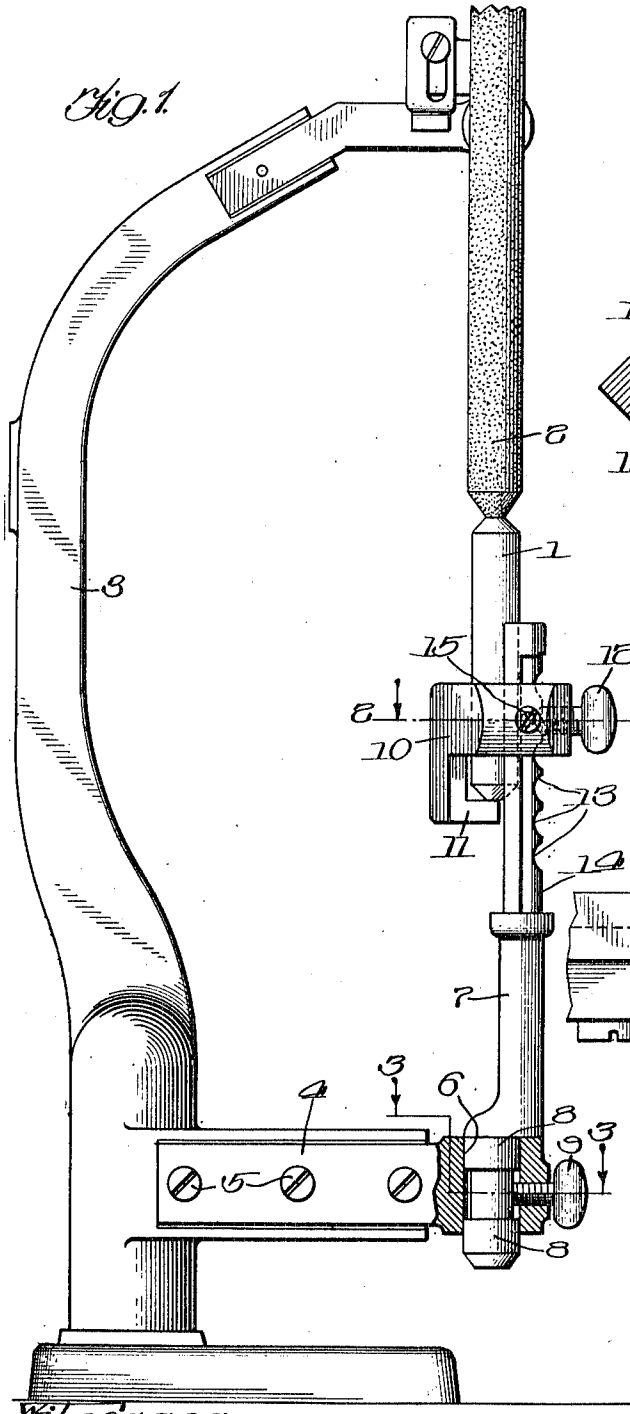


Fig. 2.

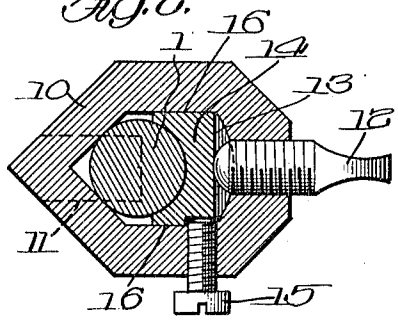
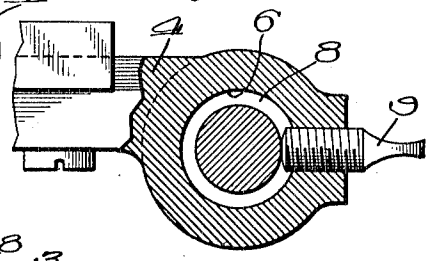


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

MARK A. ROSS, OF CHICAGO, ILLINOIS.

ELECTRIC-ARC LAMP.

1,118,684. Specification of Letters Patent. Patented Nov. 24, 1914.

Application filed May 19, 1913. Serial No. 768,585.

To all whom it may concern:

Be it known that I, MARK A. Ross, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Electric-Arc Lamps, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to electric arc lamps and has for its object the provision of an improved holder for one of the lamp electrodes.

As I have practised my invention it has been employed for holding the lower electrodes of fixed focus arc lamps.

The lamp of my invention includes a bracket upon which an electrode holder is separately secured, this electrode holder including an electrode engaging clamp member and a bracket engaging formation serving to maintain said electrode in alinement with the companion electrode irrespective of the position to which the holder is horizontally turned preparatory to its insertion within the bracket. Thus no arc can be established directly between the holder and the electrode companion to that held by the holder.

My invention also provides means for adjusting the electrode held by my holder to compensate for electrode consumption.

I will explain my invention more fully by reference to the accompanying drawing showing the preferred embodiment thereof and in which drawing—

Figure 1 is a side view illustrating as much of the lamp structure as is necessary to an understanding of the invention, working parts of the lamp structure which are not necessary to an understanding of the invention being omitted; Fig. 2 is a sectional view on line 2 2 of Fig. 1; and Fig. 3 is a sectional view on line 3 3 of Fig. 1.

Like parts are indicated by similar characters of reference throughout the different figures.

In the embodiment of the invention illustrated, the lower electrode 1 is held in position by the device of my invention, the mechanism for positioning the upper electrode 2 forming no novel part of the invention. The upper and lower electrodes are desirably respectively made of carbon and copper so as to enable the lower one to be consumed slowly.

The lamp frame 3 has a horizontal bracket 3 separably secured thereto, as by means of screws 5. The front end of this bracket is provided with a cylindrical opening 6 which is preferably of uniform diameter throughout and which opening is coaxial with the upper electrode 2 as this electrode depends from the lamp frame 3. The lower electrode supporting means includes a post 7 whose lower end is offset and there has two connected spaced apart and co-axial vertically alined cylindrical formations 8 which have snug sliding fit within the opening 6 so as to be co-axial with the upper electrode 2 irrespective of the position to which the post is horizontally turned. A threaded wing bolt 9 is in threaded engagement with the bracket 4 where apertured at 6, the inner end of this bolt projecting into the space between the cylindrical portions 8 to prevent the removal of the post from the bracket, and permitting a limited range of vertical adjustment for the post and electrode supported thereby.

An electrode clamp member 10 has an opening through which the electrode 1 and the upper portion of the post 7 both pass, an insetting bracket 11 depending from the clamp member 10 and extending below said electrode to support it when such electrode is relieved of clamping pressure. The clamp member 10 and the upper portion of the post 7 engage the electrode upon opposite sides thereof, the portion of the element 10 immediately adjacent the post carrying a clamping threaded wing bolt 12 by means of which the electrode 1 may be firmly clamped between the elements 7 and 10. The post is provided with a number of notches 13 for receiving the inner end of the clamping bolt 12 to define definite stages of upward adjustment for the electrode 1 to compensate for electrode consumption and to maintain a substantially fixed focus for the arc. A vertical groove 14, terminating short of the top of post 7, loosely or freely receives the inner end of the screw 15, the ungrooved top portion of the post preventing the screw 15 from being vertically withdrawn from the post to prevent such an adjustment that would permit the persistence of the arc between the upper electrode 2 and the lower electrode holder when the lower electrode

is nearly consumed. The post 7 and clamp member 10 are so relatively disposed as to cause the lower electrode to be clamped in alinement with the upper electrode and the post portions 8 8 which coöperate with the clamp to preserve the alinement of the electrodes irrespective of the position to which said post is turned. This result is desirably secured by making the notched upper portion of the post substantially polygonal in cross section snugly to engage the opposite flat sides 16 of the member 10, to insure the definite angular relationship of the elements 7 and 10 which are of such proportions as finally properly to position the lower electrode when firmly clamped in place by the clamp screw 12.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention but

Having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

An electric arc lamp including its frame; a bracket carried by the frame and having an opening in its outer end; a post carried by the bracket and received in said opening in the outer end of the bracket; a clamp for holding the lower electrode against a side of the post and adjustable in position longitudinally of the post, the clamp and post having interengaging formations to prevent the clamp from being turned to different positions on the post; and a bracket carried by the clamp and projecting beneath the lower electrode to hold the same in relation to the clamp when not clamped to the post, the post having an offset portion in turning engagement with the bracket about an axis substantially coincident with the electrode axis.

In witness whereof, I hereunto subscribe my name this thirteenth day of May A. D., 1913.

MARK A. ROSS.

Witnesses:
GEORGE L. CRAGG,
ETTA L. WHITE.