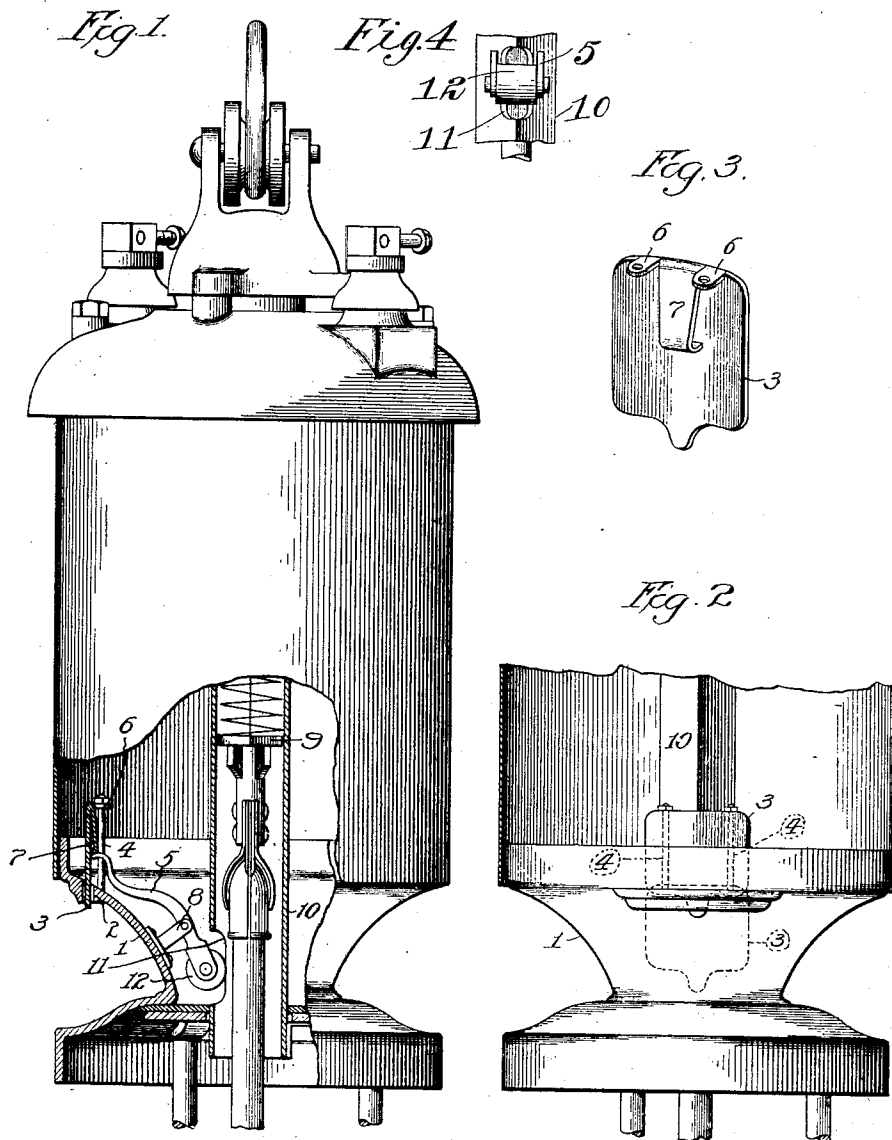


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 INDICATOR FOR ARC LAMPS.  
 APPLICATION FILED JAN. 23, 1908.

967,151.

Patented Aug. 16, 1910



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## INDICATOR FOR ARC-LAMPS.

967,151.

Specification of Letters Patent.

Patented Aug. 16, 1910.

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*To all whom it may concern:*

Be it known that I, JOSEPH H. ALLEN, 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 Indicators for Arc-Lamps, of which the following is a full, clear, concise, and exact description.

My invention relates to an indicator for arc lamps, and its object is to provide a simple and efficient device for automatically displaying a signal when the carbons have been consumed to such an extent that the retrimming of the lamps should receive attention.

In the old style open arc lamps, which were usually designed to burn for a short and definite period, as, for example, eight, twelve or fourteen hours, the carbons could all be replaced at stated periods. In the more recent types of arc lamps the conditions as to retrimming are more varied, and some more efficient plan is desirable. For example, a lamp of the multiple inclosed-arc type usually burns from one hundred to one hundred fifty hours with one set of carbons, such period depending upon several factors, such as the quality of the carbons themselves, the character of the arc-inclosing globe, etc., as well as the fact that the lamps are often thrown on and off indiscriminately. To keep track of the various lamps, so as to figure definitely when each lamp will need recarboning is practically impossible, and as a consequence they are often either allowed to burn until they go out or else are retrimmed before the necessity therefor arises.

My invention provides simple and automatic means for directing attention, prior to the complete consumption of the carbons, to the fact that the carbons should, within a short period of time be replaced with new ones.

My invention consists of a signal or target adapted to be exposed to view when the carbon has been fed a predetermined distance.

In its preferred form it consists of a drop signal normally held up by a trigger which is adapted to be engaged and tripped by the carbon holder of the arc lamp when the carbons have burned a predetermined amount.

My invention may be more readily understood by reference to the accompanying drawing, in which—

Figure 1 is a side elevation, with parts in

section and with parts broken away, of an arc lamp embodying my invention; Fig. 2 is a fragmentary view in front elevation, with the inclosing casing in section, showing the unoperated and operated positions, respectively, of the signal, the latter position being indicated by dotted lines; Fig. 3 is a perspective view of the signal; and Fig. 4 is a detail view of parts shown in Fig. 1.

Similar letters of reference are used to designate similar parts wherever shown.

In the preferred embodiment of my invention shown in the drawing, the waist casting 1 of the lamp is provided near its upper outwardly inclined portion with a vertical slot 2. A signal 3 mounted to slide on guide posts 4, 4, is normally held by the upper end of a lever or trigger 5 in such position that when released from said trigger the signal will fall through said slot and thus be exposed to view. Ears 6, 6, on the rear of the signal 3 have openings for receiving the guide posts 4, 4. The signal 3 may also have a portion bent back to form a stop 7 adapted to engage with the upper end of the trigger 5. Such trigger may be pivoted intermediate the ends upon a standard 8.

The carbon holder 9 may be guided as usual in the pipe 10, such pipe being preferably rectangular in cross-section. Near its lower end the pipe 10 is slotted or cut away on one of its edges, as indicated at 11. A projection of the trigger 5, as, for example, a roller 12 carried on the inner end thereof, bears against the sides of the cut away portion 11 as clearly shown in Fig. 4, and thus protrudes in the path of movement of the holder 9. When the upper carbon has been fed down to such an extent that the holder 9 engages the roller 12, the trigger 5 is tripped, thus releasing the signal which falls through the slot 2 and is exposed to view.

Obviously the parts may be arranged in such a manner that the signal is released an approximately predetermined time, as, for example, ten hours, before the carbons have burned out, the fall of the signal thus indicating that the lamp should be retrimmed within that time.

What I claim is:

1. In an arc lamp, the combination with a movable carbon holder, of a trigger projecting in the path of movement of said holder and adapted to be tripped thereby, and a signal normally retained in a con-

cealed position by said trigger and arranged to be exposed to view when said trigger is tripped by said carbon holder.

2. The combination with an arc lamp provided with a waist casting and a movable carbon holder, of a lever pivoted intermediate its ends on said casting, one end of said lever projecting in the path of movement of said carbon holder, and a signal normally retained in its non-indicating position by the other end of said lever and arranged to be exposed to view when said lever is tripped by said carbon holder.

3. The combination with an arc lamp provided with a movable carbon holder and a waist casting having a vertical slot therein, of a signal slidably supported on said casting and arranged, when released, to drop through said slot, and a trigger pivotally mounted intermediate its ends on said casting, one end of said trigger projecting in the path of movement of said carbon holder and the other end thereof forming a support for said signal when said signal is in its unoperated position.

4. In an arc lamp, the combination with a waist casting having a vertical slot in its upper portion, of a movable carbon holder, a guide pipe for said holder, said guide pipe having a slot in its lower end, a lever pivotally mounted intermediate its ends on said casting, a roller carried on the inner end of said lever, said roller bearing on the walls of the slot in said pipe and projecting in the path of movement of said holder, said lever being thereby adapted to be tripped by said holder, and a signal normally held in an elevated concealed position by the outer end of said lever and arranged when released

by the tripping of said lever to fall through said slot in the casting and thus to be exposed to view.

5. In an arc lamp, the combination with a waist casting having a vertical slot in its upper portion, of a movable carbon holder, a guide pipe for said holder, said guide pipe having a slot in its lower end, a lever pivotally mounted intermediate its ends on said casting, a roller carried on the inner end of said lever, said roller bearing on the walls of the slot in said pipe and projecting in the path of movement of said holder, said lever being thereby adapted to be tripped by said holder, guide posts arranged adjacent the slot in said casting, and a slidable signal mounted in said slot in the casting, said signal being provided with ears through which said guide posts pass and with a stop which is normally supported by the outer end of said lever.

6. In an arc lamp, the combination with a movable carbon holder, of a signal normally retained in its non-indicating position, a lever pivoted intermediate its ends, one end of said lever projecting into engagement with said signal to retain said signal in its non-indicating position and the other end of said lever projecting into the path of movement of said holder and arranged when tripped thereby to release said signal.

In witness whereof, I hereunto subscribe my name this seventeenth day of January A. D., 1908.

JOSEPH H. ALLEN.

Witnesses:

E. F. BEAUBIEN,  
RALPH G. JOHANSEN.