

(No Model.)

2 Sheets—Sheet 1.

P. R. SALBERG.
ELECTRIC ARC LAMP.

No. 567,691.

Patented Sept. 15, 1896.

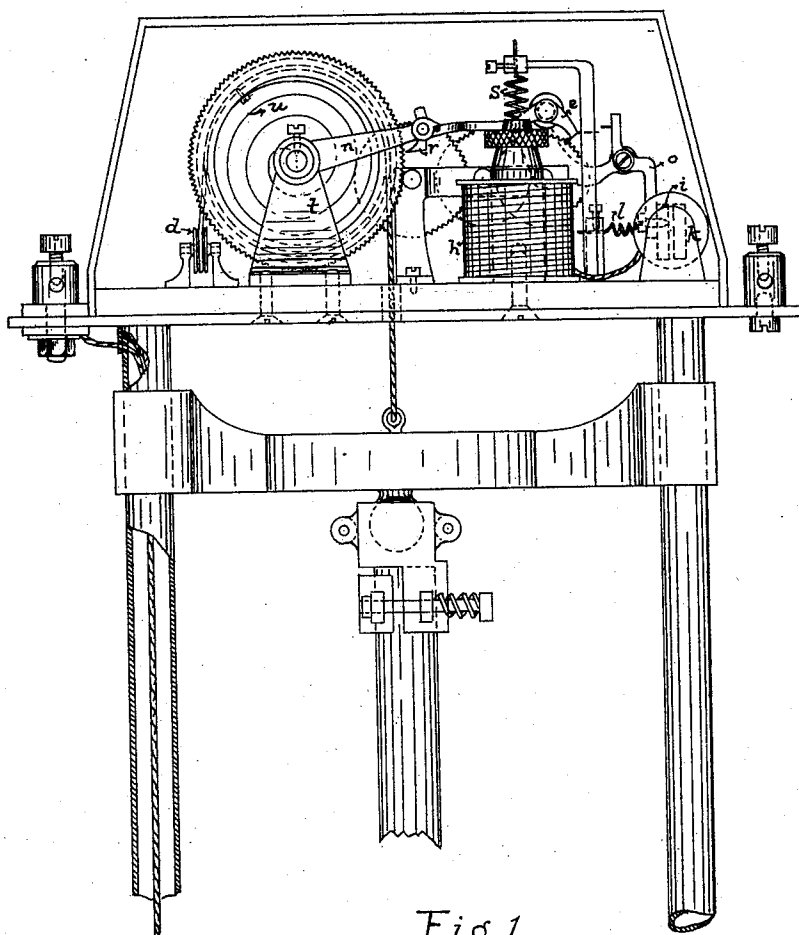


Fig. 1.

WITNESSES:

H. C. Harrison,
H. Lewis

INVENTOR

Philip R. Salberg

BY

O. D. Denis,
ATTORNEY.

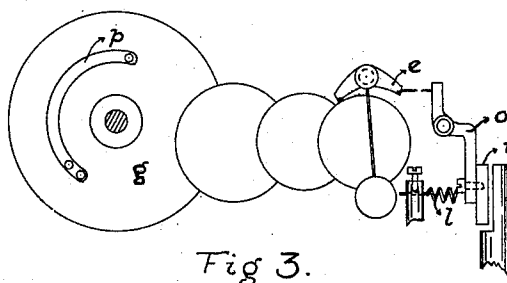
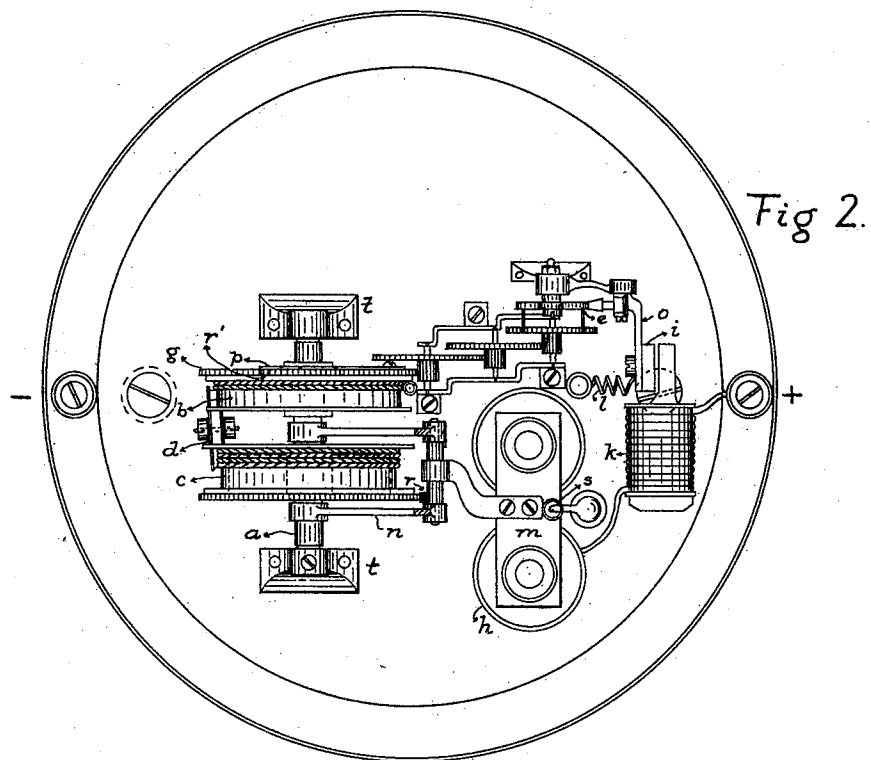
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UNITED STATES PATENT OFFICE.

PHILIP R. SALBERG, OF ALLEGHENY, PENNSYLVANIA.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 567,691, dated September 15, 1896.

Application filed January 11, 1896. Serial No. 575,186. (No model.)

To all whom it may concern:

Be it known that I, PHILIP R. SALBERG, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Regulators for Arc-Lamps, of which the following is a specification.

The object of my invention is to provide a means for automatic adjustment of the carbons. This I accomplish by means of the mechanism shown in the accompanying drawings, in which—

Figure 1 is a side view, Fig. 2 is a plan, and Fig. 3 is a diagrammatic view, of the escapement and its train of cog-wheels.

Similar letters refer to similar parts.

The following is a full description of my invention:

An axle *a* is supported by two posts *t*. On axle *a* two drums *b* and *c* are loosely mounted, so that they will turn in either direction. These drums *b* and *c* carry the cable or string from which the upper-carbon holder is suspended. The drum *b* is connected to a series of cog-wheels, to which an escapement *e* is attached. One of these cog-wheels *g* is mounted upon the same axis with and next to the drum *b*, and connected to same by a spring *p* and a pawl *r*, whose office is to prevent the drum from moving forward when the escapement is arrested.

The drum *c* has a spring *u* inside, serving to wind up the string for the upper-carbon holder when the lamp is being trimmed. The drum *d* serves as a guide for the string.

In connection with the escapement *e* is a lever *o*, with an armature *i* of soft iron. The lever *o* is brought into action by means of a magnet *k* and a retracting-spring *l*.

To the drum *c* is connected an arrangement consisting of a lever *n*, in two parts, with a pawl *r* and an iron armature *m* attached. The magnet *h* attracts the armature *m* when any excess of current passes through the windings *k*.

When no current passes through the lamp, the spring *l* causes the lever *o* to release the escapement *e*, and will allow upper-carbon holder, by virtue of its own weight, to slowly descend until the carbons are together.

If current is sent through the lamp, the magnet *h* will attract its armature *m*. The pawl *r* will then catch a cog on the drum *c* and turn it around a little, thus winding up the string and separating the carbons till the arc has reached its proper length. At the same time the magnet *k* will attract its armature *i*, thus arresting the escapement *e*.

When the carbons have burned off so much that the arc gets too long, this increases the electrical resistance and weakens the current, so that the magnet *h* gradually relieves the armature *m*, which will be lifted upward by the spring *s*. At the same time the magnet *k* gets weaker, so that the spring *l* relieves the armature *i*, thus making the escapement free, which allows the upper carbon to feed down till the current has reached its normal strength. This process is repeated during all the time that the lamp is in operation.

The length of the arc can be regulated by changing the power of the spiral spring *l*. The main current serves to excite both magnets.

What I claim, and desire to secure by Letters Patent of the United States, is—

In a regulator for arc-lamps, the combination of the independently or loosely mounted drums, a series of cog-wheels, one of which has a spring connection with one of said drums, a lever mounted or pivoted upon the axis of said drums and carrying a pawl, engaging one of said cog-wheels, said lever having a spring-suspended armature at its free end carrying an escapement or dog, a magnet for actuating said armature, a lever adapted to engage said escapement or dog carrying a spring-controlled armature and a second magnet for actuating the latter armature in controlling the lower carbon, the upper carbon being controlled from the said drums, substantially as set forth.

In testimony that I claim the foregoing I hereunto affix my signature this 2d day of November, A. D. 1894.

PHILIP R. SALBERG. [L. S.]

In presence of—

JOHN S. KENNEDY,
I. A. CARLINS.