

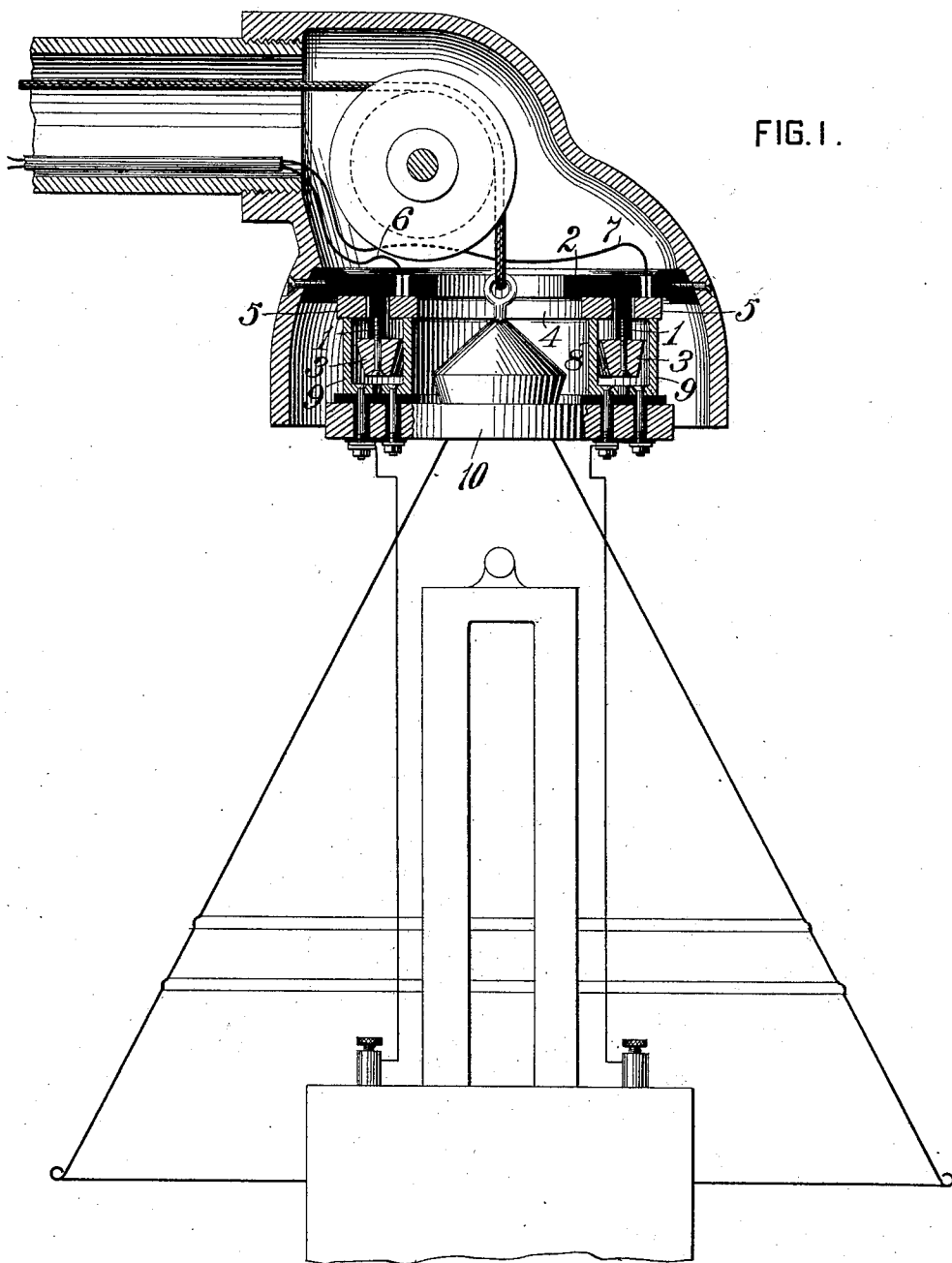
(No Model.)

2 Sheets—Sheet 1.

A. H. LUCAS.
CUT-OUT FOR ARC LAMPS.

No. 564,757.

Patented July 28, 1896.



WITNESSES:

Chas. F. Miller.
J. E. Smith.

INVENTOR,

Austin H. Lucas
by Danvers B. Wolcott

Att'y.

(No Model.)

2 Sheets—Sheet 2.

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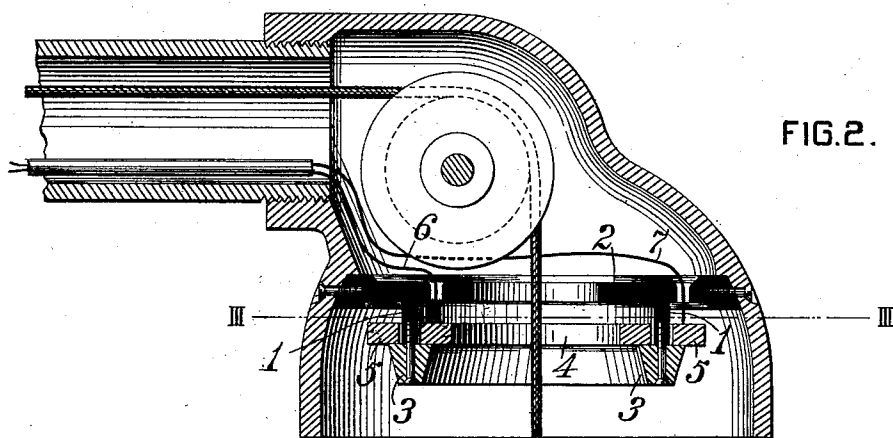


FIG. 2.

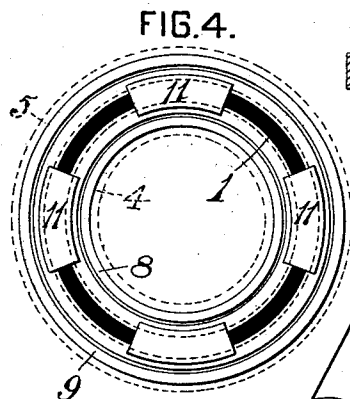


FIG. 4.

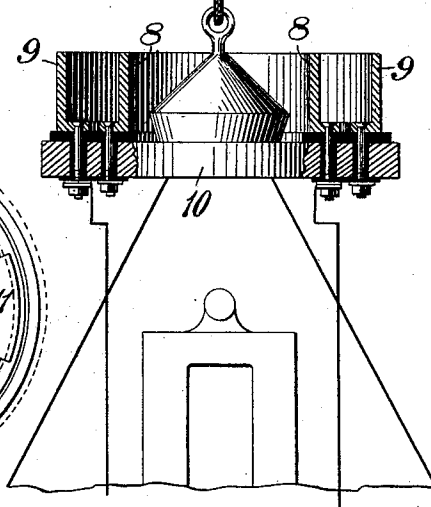
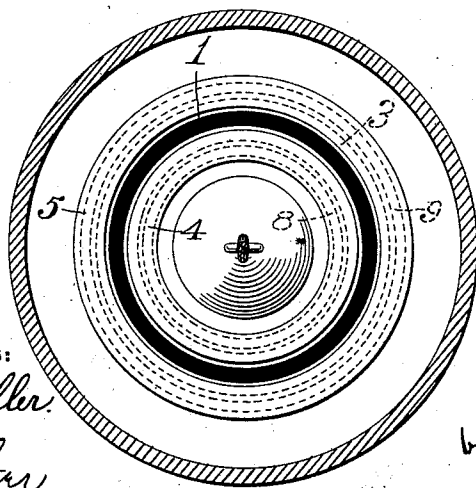


FIG. 3.



WITNESSES:

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INVENTOR,

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UNITED STATES PATENT OFFICE.

AUSTIN H. LUCAS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO GEORGE P. SHANE, OF SAME PLACE.

CUT-OUT FOR ARC-LAMPS.

SPECIFICATION forming part of Letters Patent No. 564,757, dated July 28, 1896.

Application filed April 4, 1896. Serial No. 586,163. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN H. LUCAS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Cut-Outs for Arc-Lamps, of which improvements the following is a specification.

The invention described herein relates to certain improvements in circuit-changers for arc-lamps. As lamps of this class or kind are arranged in series in a circuit, it is necessary, when it is desired to cut out a lamp when the current is on, to provide a shunt-circuit, which should be closed before the circuit through the lamp is broken.

The object of the present invention is to provide means, automatically operative when the lamp is lowered, to close the shunt-circuit and open the circuit through the lamp.

In general terms the invention consists in the construction and combination substantially as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of an arc-lamp supported on a mast-arm, the lamp being in operative position and the circuit completed through the lamp. Fig. 2 is a similar view showing the lamp lowered and the circuit completed through the shunt. Fig. 3 is a sectional plan view, and Fig. 4 is a plan view illustrating a modified form of shunt-ring.

In the preferred form of my invention an annular band 1, formed of insulating material, is secured to an insulating block or disk 2, which is adapted to be attached to a mast or arm or other lamp-support. A contact plate or strip 3, preferably ring-shaped and formed of metal and having its sides inclined toward each other, is secured to the lower edge of the band 1. Flat metal rings or conductor-terminals 4 and 5 are arranged, respectively, inside and outside of the band, and the conductors 6 and 7 are connected to these metal rings in such manner as to permit them to rise and fall freely, as hereinafter described. Two metal sleeves or lamp-terminals 8 and 9 are attached to but insulated from the top plate 10 of the lamp, un-

less the plate is formed of insulating material. These sleeves are made of such a diameter and so attached to the lamp-plate that they will pass one inside and the other outside of the ring 3 without both coming into contact therewith at the same time. One of these sleeves is connected to one of the carbon pencils and the other to the other pencil.

When the lamp is raised, as shown in Fig. 1, the rings 4 and 5 rest upon the sleeves 8 and 9, respectively, the circuit being then completed from one of the rings 4, through the sleeve 8, the carbon pencils, the sleeve 9, to the ring 5. As the lamp is lowered the rings will move down with the sleeves until the former rest upon the metal ring 3, which will then form the conductor between the rings 4 and 5, the circuit through the lamp being broken by the continued downward movement of the lamp. When the lamp is raised, the sleeves will be in contact with the rings 4 and 5 before the latter can be lifted from the shunt conductor or ring 3. Thus it will be seen that the circuit through the lamp or shunt will be completed before the other is broken, thus avoiding any interruption of the feed-circuit that would affect other lamps thereon.

It is preferred to so connect the feed-conductors to the rings 4 and 5 and the carbon pencils to the sleeves as to insure an effective contact between the rings and sleeves. This is effected by connecting the conductor in the lamp to points on the sleeves diametrically opposite the points at which the feed-conductors are connected to the rings 4 and 5.

In lieu of forming the ring 3 of metal it may be formed of insulating material and one or more transverse conducting-strips secured on top of it in such manner that both rings will come in contact therewith when lowered, as shown in Fig. 4.

I claim herein as my invention—

1. The combination of a stationary metal strip, two movable metal rings movable toward and from said strip, and adapted to be connected to the conductors of the feed-circuit, and two metal sleeves adapted to be connected to the carbons of a lamp and arranged to move on opposite sides of the metal strip, and when so moved, to shift the metal rings

into and out of contact with the metal strip, substantially as set forth.

2. The combination of two movable terminals formed of conducting material and
5 adapted to be connected to the conductors of a feed-circuit, a stationary metal contact-plate arranged in the path of movement of said terminals, and two terminals formed of conducting material connected to the lamp

and adapted when the lamp is raised to shift 10 the conductor-terminals from the contact-plate, substantially as set forth.

In testimony whereof I have hereunto set my hand.

AUSTIN H. LUCAS.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.