

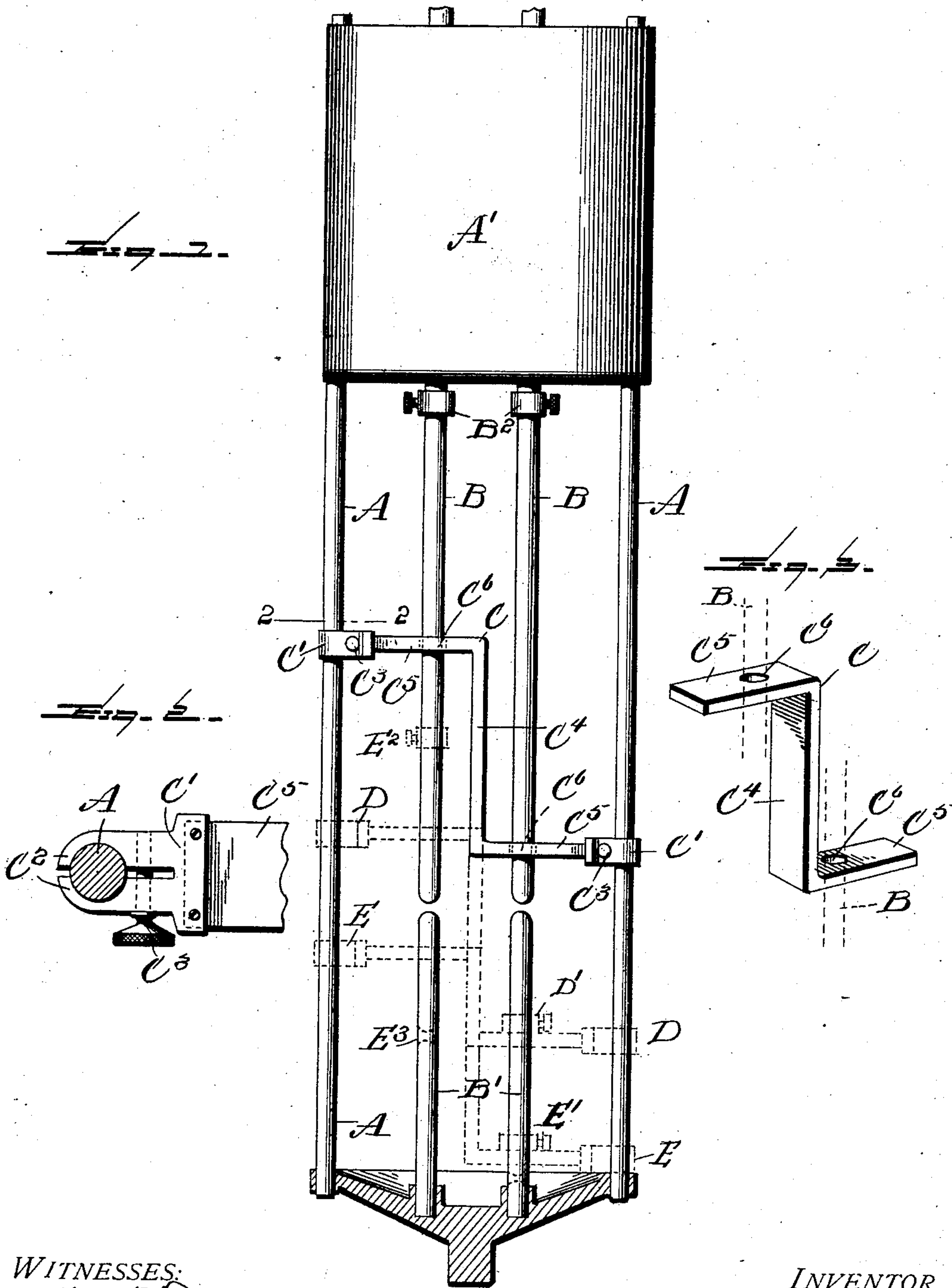
No. 715,643.

Patented Dec. 9, 1902.

W. J. DEMING.  
CARBON GUIDE FOR ELECTRIC LAMPS.

(Application filed July 12, 1902.)

(No Model.)



WITNESSES:

Wm. F. Doyle  
Alfred T. Gage.

INVENTOR

By William J. Deming.  
E. B. Stocking Attorney



# UNITED STATES PATENT OFFICE.

WILLIAM J. DEMING, OF MURPHYSBORO, ILLINOIS.

## CARBON-GUIDE FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 715,643, dated December 9, 1902.

Application filed July 12, 1902. Serial No. 115,349. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. DEMING, a citizen of the United States, residing at Murphysboro, in the county of Jackson, State of Illinois, have invented certain new and useful Improvements in Carbon-Guides for Electric Lamps, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a carbon-holder, and particularly to a device to hold the carbons of an arc-lamp in alinement with each other and prevent the moving thereof when the lamp is moved by wind or from any other  
15 cause.

The invention has for an object to provide a guide slidably mounted upon the side rods at the opposite sides of an electric-arc lamp and provided with apertures to permit the  
20 free passage of a carbon through the guide, while the latter is frictionally held upon the rods of the lamp to prevent movement under ordinary conditions, but to permit movement thereof when the socket for the carbon  
25 reaches and presses against the guide.

Other and further objects and advantages of the invention will be hereinafter set forth, and the novel features thereof defined by the appended claims.

30 In the drawings, Figure 1 is a side elevation of an arc-lamp having the invention applied thereto with the base in section. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1, showing the clamp; and Fig. 3 is a detail  
35 perspective of the guide having the position of the carbons indicated by dotted lines.

Like letters of reference refer to like parts in the several figures of the drawings.

40 The present invention is adapted for application to any form of arc-lamp, but in this case is illustrated in connection with a conventional form of lamp having the opposite side rods A extending between the casing A', which contains the feeding mechanism for the carbons B, and the base A<sup>2</sup>, which  
45 is provided with sockets A<sup>3</sup>, adapted to receive the carbons B', disposed at the lower portion of the lamp. The carbons B are secured within suitable sockets B<sup>2</sup>, and the parts are  
50 adapted to operate as usual in two-carbon lamps, wherein the current is automatically switched from one set of carbons to the other

when the first set has become consumed. The guide C is formed of non-conducting or insulating material and mounted at its opposite ends upon the guide-rods A by means of  
55 clamps C', which may be of any desired construction—for instance, as shown in Fig. 2, where they are composed of split jaws C<sup>2</sup>, adapted to be drawn together by a thumb-  
60 screw C<sup>3</sup> for the purpose of exerting a frictional resistance to the movement of the guide upon the rod A by gravity. This guide is composed of a body portion C<sup>4</sup>, having at  
65 its opposite ends guide portions C<sup>5</sup>, each of which is provided with an aperture C<sup>6</sup> of greater diameter than a carbon, so as to permit the free passage of the carbon there-  
through, while the free ends of the guide portions are secured to the clamps C', so that  
70 when the parts are in the position shown in Fig. 1 the guide is retained against movement, while the carbons travel freely through the same, but are held against lateral movement out of alinement with the carbons B'  
75 beneath the same.

In the operation of the invention the current may be assumed to be passing through the right carbons B and B', the former of which is fed downward by any desired means  
80 and passes freely through the guide until the socket B<sup>2</sup> upon the feed-rod B<sup>3</sup> reaches the guide, which then overcomes the frictional resistance of the clamps C' and C' and carries the guide downward until the right  
85 clamp C' rests upon the base, at which time the left end of the guide will properly guide and hold the left carbon B over its companion B'. As is well known, the upper carbons  
90 in these lamps are consumed twice as rapidly as the lower ones, and therefore the right socket B<sup>2</sup> engages the guide and carries it downward into the position shown by dotted  
lines at D, where the position of the socket is indicated at D'. At this time the current  
95 is switched automatically to the left carbons by any ordinary shifting means connected to the carbon-feed in the casing A, and in the continued feed both sets of carbons burn  
while the guide continues downward by the  
100 pressure of the socket of the right carbon until it reaches the base, as indicated by dotted lines at E, the socket being represented at E' when the right carbon is consumed and extin-



guished. At this time the socket of the left carbon has traveled downward, as shown by dotted lines at  $E^2$ , so that the point of arc is still below the guide, as shown by dotted lines at  $E^3$ . As a rule the right upper and lower carbons are completely consumed and the left lower carbon mostly consumed after a night's burning, so that the remaining upper left carbon is removed and placed in the base for the lower carbon for the following night. It will therefore be seen that the shoulder  $B^2$  moves downward and rests upon the right side of the carbon-guide, carrying it to the position shown at D when the left carbon is switched in, and then continuing its downward movement until it reaches the position shown at E, when the left side of the guide will continue to protect the left carbon until consumed and the carbons continue to burn after the guide reaches the point E, there being a uniform downward feed of the left carbon through the guide. Another feature of great importance is the fact that the guide when it reaches the base  $A^2$  prevents any further burning of the lower-carbon stubs, which are supported in the iron frame of the lamp, and if burned down in their sockets would fuse and injure the lamp, thus causing great expense and trouble in repairs. It will furthermore be seen that this guide supports the carbons in alinement, and it is not necessary to set the feed so heavily as to prevent its continued and free operation, as the feed may be adjusted in the most desirable manner and any oscillation or lateral movement of the carbons effectually prevented by means of the guide herein disclosed.

It will be obvious that the guide may be applied to any character of lamp to support a carbon therein and that changes may be made in the details of construction and configuration of the guide without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set

forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a carbon-guide, the combination with an electric-arc lamp having opposite side rods, of carbons parallel thereto, a movable insulated guide slidably mounted upon said rods and provided with an aperture for the passage of a carbon therethrough, and a clamp for said guide adapted to exert a frictional resistance upon said rods to prevent the movement of the guide by its own gravity; substantially as specified.

2. In a carbon-guide, the combination with an electric-arc lamp having opposite side rods, of duplicate sets of carbons supported parallel thereto, a movable insulated guide comprising horizontally-disposed apertured ends in different planes and an intermediate vertical portion connecting the ends of the holder and means carried by said ends to prevent movement thereof by its own gravity; substantially as specified.

3. In a carbon-guide, the combination with an electric-arc lamp having opposite side rods, of duplicate sets of carbons supported parallel thereto, a movable insulated guide comprising horizontally-disposed apertured ends in different planes and an intermediate vertical portion connecting the ends of a guide, and a frictional clamp upon each end of the guide embracing the side rods of said lamp; substantially as specified.

4. A carbon-guide comprising an insulated body having at opposite ends guide portions disposed at a right angle to the body and provided with apertures to permit the passage of carbons through said guide portions; substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. DEMING.

Witnesses:

R. J. MCGLOVIN,  
MAY MAYHAM.