

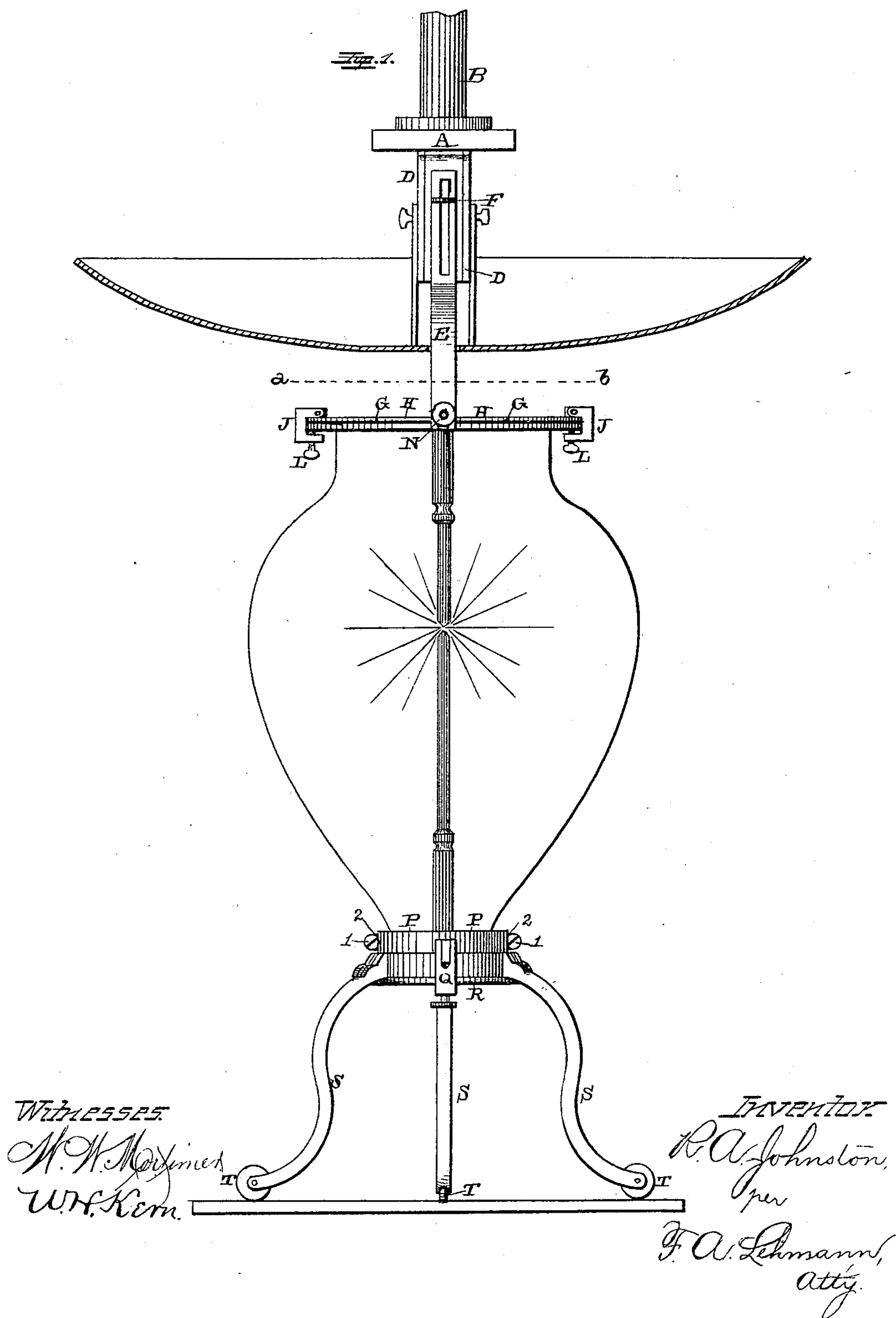
(Model.)

3 Sheets—Sheet 1.

R. A. JOHNSTON.  
ELECTRIC ARC LAMP.

No. 262,296.

Patented Aug. 8, 1882.



(Model.)

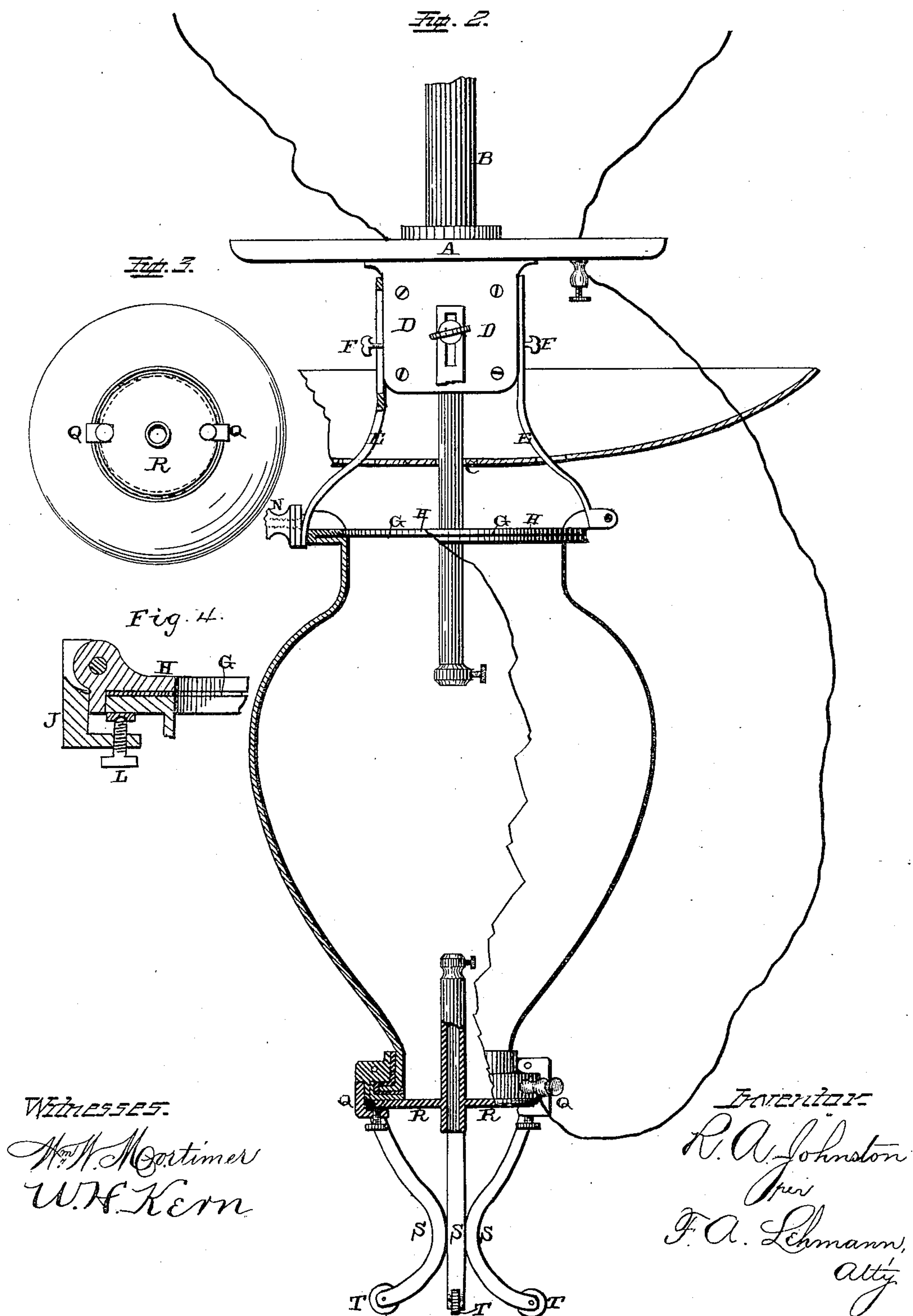
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R. A. JOHNSTON.

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No. 262,296.

Patented Aug. 8, 1882.



WITNESSES.

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(Model.)

3 Sheets—Sheet 3.

R. A. JOHNSTON.

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Fig. 5.

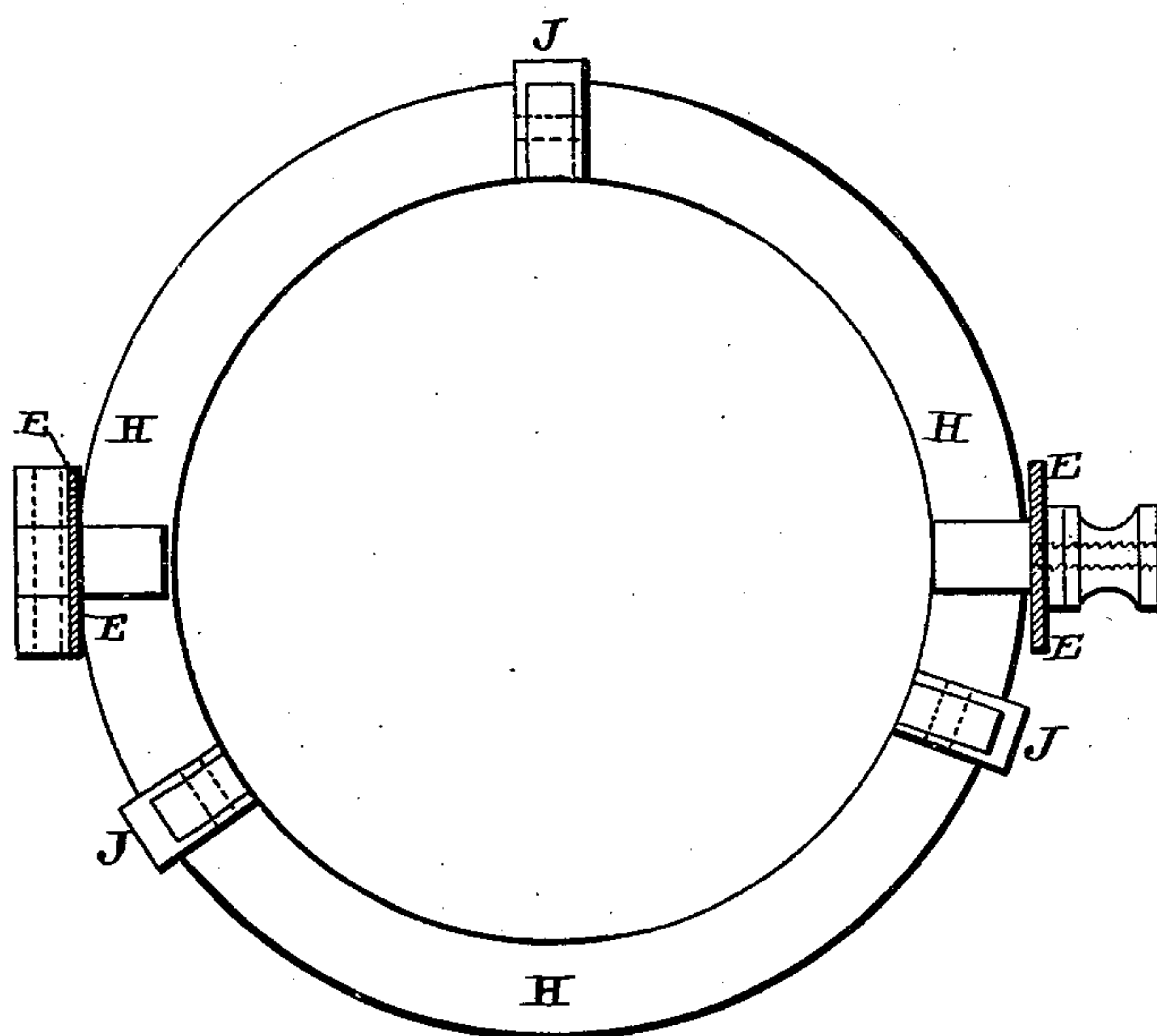
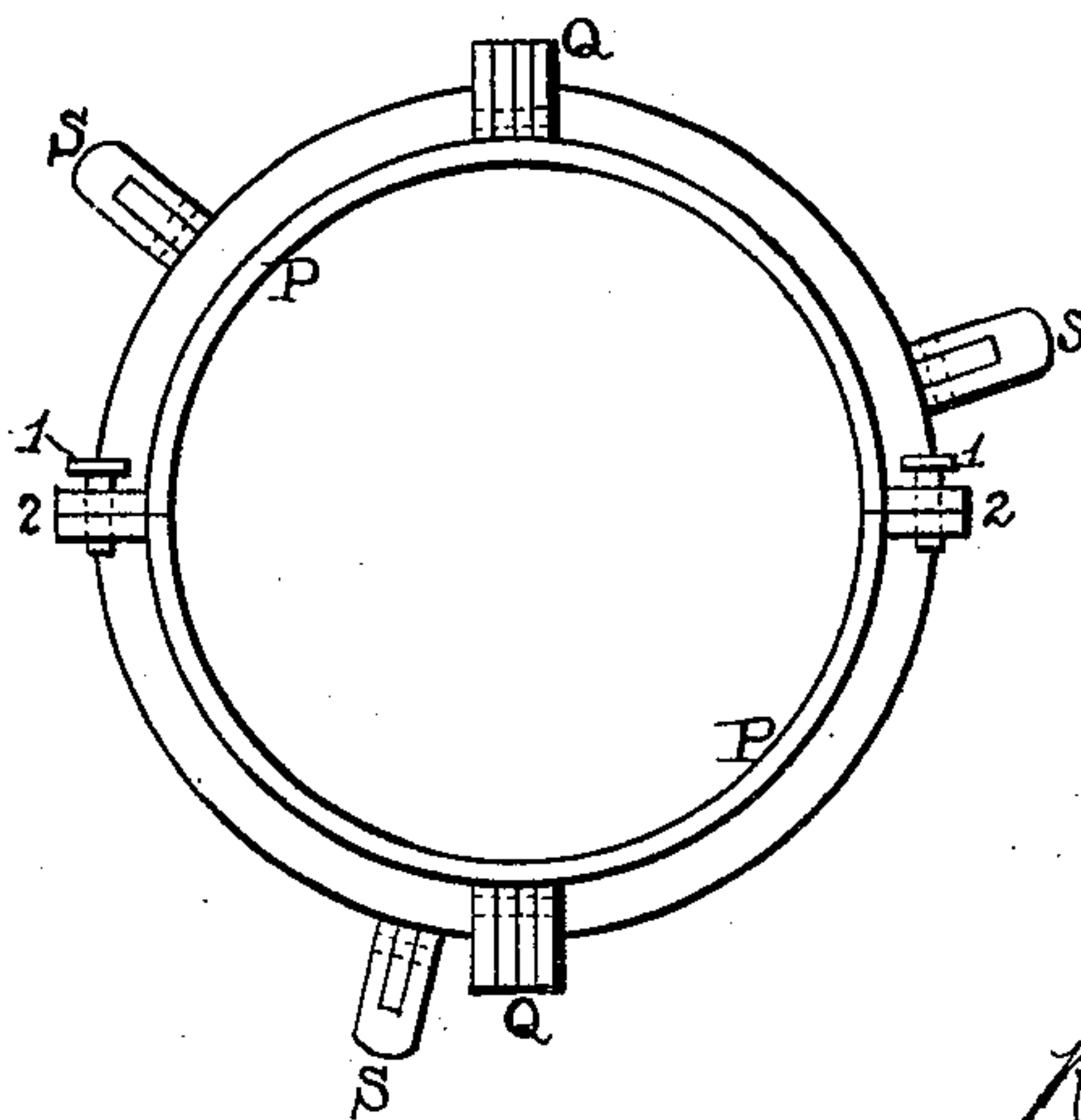


Fig. 6.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ROBERT A. JOHNSTON, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO  
ALPHONSE CHARBONNEAU, OF SAME PLACE.

## ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 262,296, dated August 8, 1882.

Application filed January 9, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, ROBERT A. JOHNSTON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Electric-Arc Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompany drawings, which form part of this specification.

My invention relates to an improvement in electric lamps.

It consists, first, in two or more slotted hangers or supports, to the lower ends of which the globe is attached, and which hangers or supports are slotted at their upper ends, so as to be vertically adjustable. The object of this part of my invention is to lower the globe below the protecting-box, so that the globe can be swung around for the purpose of giving access to the carbons.

It consists, second, in the combination, with an electric lamp, of hinged clamps which are attached to the metallic frame around the lower end of the globe, and which are used for the purpose of holding the lower-carbon holder in place. The object of this part of my invention is to make the lower-carbon holder removable, and to allow the sparks to be cleaned out of the lower part of the globe, and at the same time to make the lower-carbon holder laterally adjustable, so that it can be moved into a direct line with the upper-carbon holder.

It consists, third, in the combination, with an electric lamp, of a number of hinged feet which are pivoted at their upper ends to the metallic collar that is attached to the lower part of the globe. The object of this part of my invention is to provide the lamp with feet which will automatically close inward when the lamp is raised upward, so as not to obstruct the downward passage of the light, but which, when the lamp is placed upon a table or other support, will automatically open outward, so as to support the lamp in an upright position.

Figure 1 is a side elevation of my lamp,

showing it placed upon a support. Fig. 2 is a side elevation of the same, partly in section, and showing the supporting-legs closed together. Figs. 3, 4, and 6 are detail views. Fig. 5 is a horizontal section of the lamp, taken on the dotted line *a b*, Fig. 1.

A represents the lamp-board, and B the chimney or socket, into which the upper-carbon holder C is moved. To the under side of this board is secured the box D, in which the regulating mechanism is placed. These parts, above referred to, are the same as shown in the well-known Brush lamps, and are simply used here so as to show my invention as used in connection with one of the lamps of that make.

Secured to the opposite edges of the box are the two hangers or supports E, which are slotted at their upper ends, and through these slots are passed the set-screws F. To the lower ends of these hangers or supports the globe is hinged. These hangers or supports are slotted at their upper ends or are made vertically adjustable in any suitable manner for the purpose of allowing the globe to be raised and lowered, as shown in Figs. 1 and 2.

Ordinarily when the lamp is in use the upper portion of the works and globe are covered by a tin box or other suitable covering, so as to protect the lamp from the weather, and when this protecting-box is in place it is necessary to lower the globe down a suitable distance, so as to allow it to be swung backward, as in the patent granted to me December 27, 1881. This protecting-box, being old and common, is not here shown, and is referred to merely to show that the lamp is to be protected like all other lamps of a similar nature.

Formed upon the top edge of the globe is a horizontal flange, and upon the top of this flange is placed a suitable thickness of rubber, felt, or any other suitable material, G. The metallic frame H, which is applied to the top edge of this globe, is provided with a suitable number of hinged clamps, J, through which are passed the rubber-tipped screws L. These hinged clamps are moved inward, so that their lower ends catch under the flange that is formed



upon the top of the globe, and the rubber-tipped screws then bear directly against the flange that is formed upon the globe. This frame is hinged at one side to one of the supports or hangers E, and is fastened to the other by means of a suitable clamp, N. When the clamp N is loosened or swung outward the globe can be swung to one side for the purpose of giving access to the carbons, or for any other purpose.

Formed upon the lower edge of the globe is another horizontal flange, and applied to this end of the globe is the metallic frame or ring P, which is made in two parts, and which parts are secured together by the set-screws 1, which pass through the ears 2, made upon each part. In between these parts of the metallic frame and the globe will be placed any suitable packing of felt, rubber, or other material, so as to allow the globe to expand and contract from the heat. Upon opposite sides of this metallic frame are the hinged clamps Q, which catch under the lower edge of the frame and support the lower-carbon holder R in position. This lower-carbon holder R consists of a flat disk, to which is secured in any suitable manner the hollow tube, in the upper end of which the lower carbon is secured. It is very necessary for the perfect working of the lamp that this lower-carbon holder should always come in direct line with the upper one, and these hinged clamps allow the lower-carbon holder to be adjusted laterally, so that it can be brought in direct line with the upper-carbon holder. After the two holders have been adjusted exactly in line the lower one is secured in position by means of the set-screws in the clamps.

In order to form a suitable support for the lamp when it is placed upon the ground floor or any other support, there are pivoted any desired number of curved legs, S, to the frame or ring P, and which are so shaped that when the lamp is raised upward these legs automatically fold inward toward each other, so as

to not in any way obstruct the downward passage of the light. Each one of these legs is provided at its lower end with a friction-roller, T, so that as soon as the lamp is placed upon a support these legs automatically open outward and form a support for the lamp, so as to keep it in a vertical position. These legs are very necessary whenever the lamp is lowered from its elevated position, whether the lamp is to be placed upon a table, the floor, or the ground, and thus prevent it from being laid down upon either side or having to be leaned against some other support, as has heretofore always been the case.

The frame attached to the lower edge of the globe may be made of glass or any other transparent material, instead of metal, should it be so preferred.

Having thus described my invention, I claim—

1. In an electric lamp, the combination of the box D, slotted supports E, and the globe having the lower-carbon holder secured to it, substantially as shown.

2. The combination of the globe having the frame or ring P secured to it, the clamps, and the laterally-adjustable lower-carbon holder, substantially as described.

3. The combination, in an electric lamp, of the globe, the metallic frame attached to its lower end, the hinged clamps, and the lower-carbon holder, whereby the holder can be adjusted laterally, substantially as set forth.

4. The combination of an electric lamp with a number of hinged feet which are attached to the lower end of the globe, and which feet automatically open outward when the lamp is placed upon a support, substantially as specified.

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

ROBT. A. JOHNSTON.

Witnesses:

WIL. H. KERN,

W. W. MORTIMER.