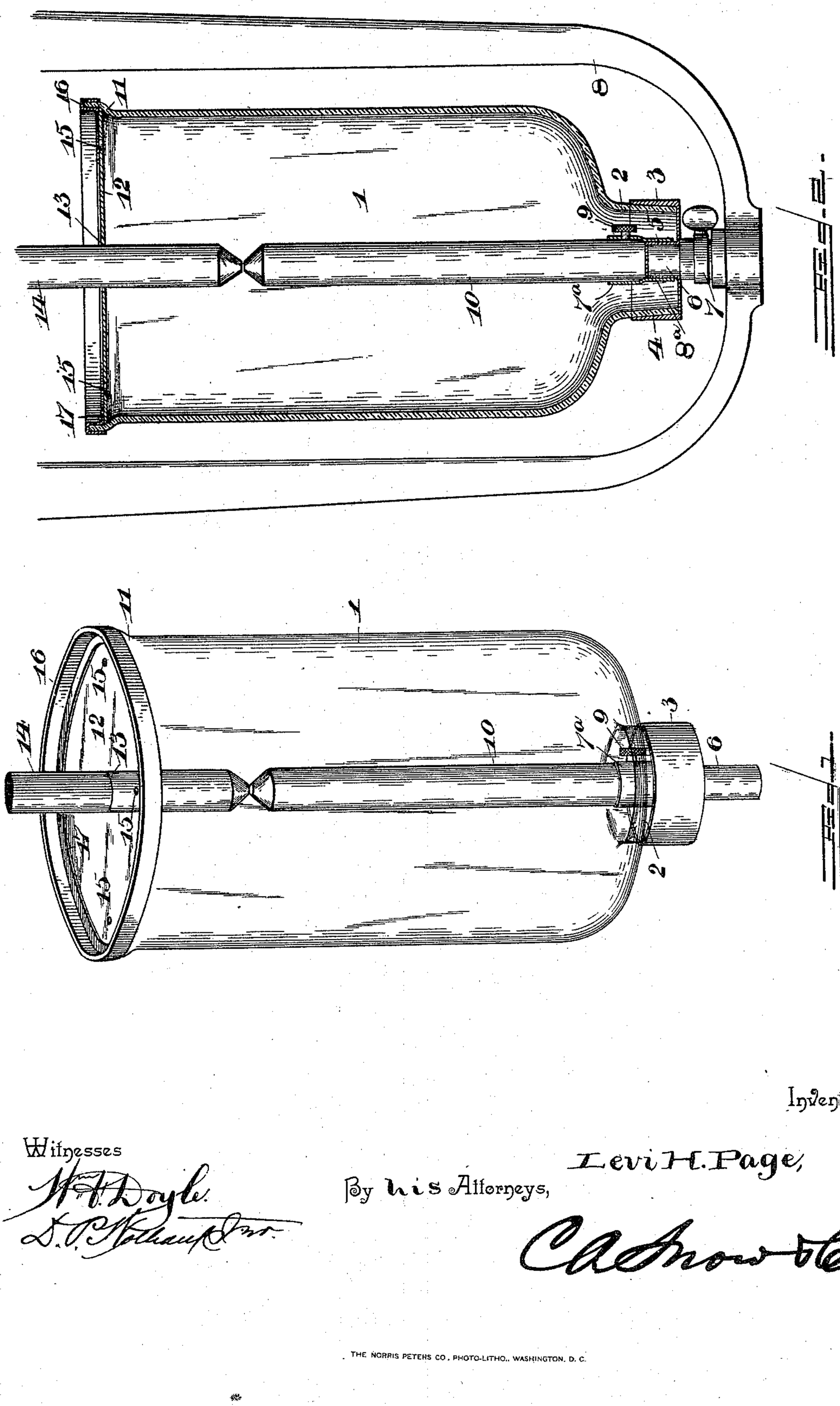
(No Model.)

L. H. PAGE.

ELECTRIC ARC LAMP.

No. 573,911. Patented Dec. 29, 1896.



Witnesses
W. F. Doyle.
L. C. Goldsmith Jr.

Inventor,
Levi H. Page,
By his Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

LEVI H. PAGE, OF CHICAGO, ILLINOIS.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 573,911, dated December 29, 1896.

Application filed March 12, 1896. Serial No. 582,958. (No model.)

To all whom it may concern:

Be it known that I, LEVI H. PAGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Electric-Arc Lamp, of which the following is a specification.

This invention relates to electric-arc lamps; and it has for its object to effect certain improvements in lamps of this character to prevent the escape of sparks, and also to lessen the consumption of carbon and thereby the expense of trimming the lamps at frequent intervals.

To this end the main and primary object of the present invention is to so construct an electric-arc lamp as to effectually prevent the escape of sparks from the burning carbons, and at the same time to provide a partial vacuum, whereby the carbons will burn without changing for a considerable length of time, which is a very desirable feature in electric-arc lamps.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of the herein-described electric-arc lamp embodying the herein-described improvements. Fig. 2 is a central vertical sectional view thereof.

Referring to the accompanying drawings, the numeral 1 designates a cylindrical glass globe of a uniform diameter throughout and provided at its lower closed end with a narrowed cylindrical neck extension 2, which is adapted to tightly and removably register within the metallic globe-supporting cup 3. The metallic globe-supporting cup 3 is interiorly tapered, as at 4, so as to have a tight wedging fit on the neck extension 2 at the bottom of the globe 1, and thereby to form an air-tight connection between the supporting-cup 3 and the lower end of the globe 1 to effectually exclude air at this point.

Metallic globe-supporting cup 3 is provided with an integral central upwardly-disposed tube portion 5, which forms a socket to tightly receive the upper end of a short metallic holder-rod 6, the lower end of which holder-rod is adapted to be clamped within the ordinary chuck 7 at the lower end of the ordinary lamp-frame 8, and it is of course understood that the said lower chuck 7 of the lamp-frame is connected with one of the wire terminals of the lamp in the usual manner.

The central upwardly-disposed tube portion of the globe-supporting cup 3 not only forms a socket for the upper end of the holder-rod 6, but also forms a support for the metallic clamp-collar 7^a, having a reduced lower end 8^a, fitting exteriorly on the upper end of said tube portion 5. The main portion of the clamp-collar 7^a projects above the socket-tube 5 of the cup 3 and has mounted in one side a clamp-screw 9, which is adapted to impinge against the lower end of the lower carbon 10, which is fitted in and supported in its upright position by the said clamp-collar 7.

The cylindrical lamp-globe 1 is provided at its open upper end with an interior shoulder 11, forming a seat for the mica shield-disk 12, removably arranged within the open upper end of the globe and forming a cover therefor.

The mica shield-disk 12 is provided with a central carbon-hole 13, which snugly receives the upper carbon 14 of the lamp, which projects within the globe into close proximity to the upper end of the lower carbon 10 to provide for forming an arc-light in the usual way when the lighting-circuit is completed through the two carbons, and the said mica shield-disk 12 is preferably further provided with a series of ventilating-openings 15, which provide for a free circulation of air and gas out of the air-tight globe 1. The mica shield-disk 12 is firmly retained within the open upper end of the globe 1 by means of a removable grooved cap-ring 16, fitting over the upper edge of the globe 1 and provided with an inturned retaining-flange 17, fitting over the edges of the said disk to securely retain the same in place.

By reason of the air-tight closure of the lamp-globe 1 at its base or lower end it will be obvious that the said globe provides a combustion-chamber for the burning carbons, the heat from which necessarily rises and excludes the inlet of air at the upper end of the globe, so, therefore, while the carbons are burning a substantial vacuum exists within the globe, which greatly prolongs the

life of the carbons, so that the same will burn a considerable length of time without the necessity of frequent changes. While this important result is accomplished by the construction claimed, it will also be understood that the mica shield-disk 12 effectually prevents the escape of sparks from the interior of the lamp-globe, while at the same time not interfering with the outward circulation of heated air and gas, without cracking or warping.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In an electric lamp, a globe having an air-tight closed lower end and carrying within such end a support for the lower carbon, said globe being annularly enlarged at its upper end to form an interior shoulder, a mica disk removably arranged within said upper end of the globe on said shoulder, and means for tightly binding the edges of the disk on said shoulder, substantially as set forth.

2. In an electric lamp, a globe having an air-tight closed lower end and carrying within such end a support for the lower carbon, said globe being provided at its open upper end with an interior shoulder, a mica shield-disk removably arranged within the upper end of the globe on said shoulder and provided with a central carbon-hole and a series of ventilating-openings, and a grooved cap-ring fitting over the upper edge of the globe and provided with an inturned retaining-flange projecting over the upper edge of the disk, substantially as set forth.

3. In an electric lamp, a cylindrical globe having a removable top cover and provided at its lower end with a narrowed cylindrical neck extension, a metallic globe-supporting cup interiorly tapered to receive said neck extension of the globe in a tight wedging fit, said cup being further provided with an integral centrally upwardly disposed tube portion forming a socket, a short metallic holder-rod fitting at its upper end in said socket and adapted to be clamped within the ordinary chuck at the lower end of the lamp-frame, and a carbon-supporting clamp-collar projecting above and fitted on the socket-forming tube portion of said cup, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LEVI H. PAGE.

Witnesses:
JAMES L. CAMPBELL,
CHARLES R. LATHROP.