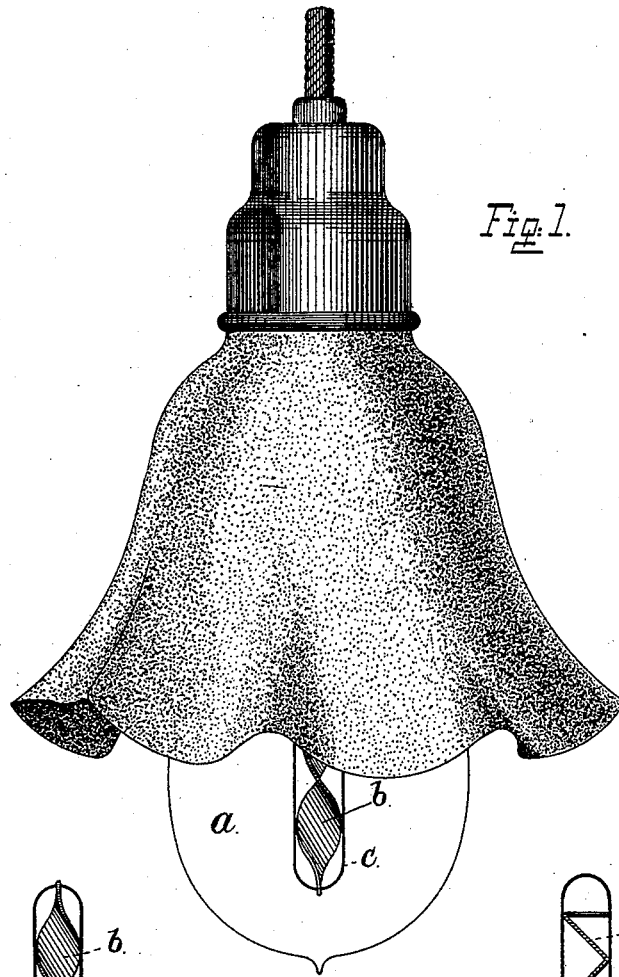


(No Model.)

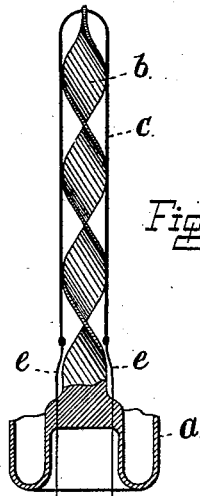
C. A. BACKSTROM.  
INCANDESCENT LAMP.

No. 404,816.

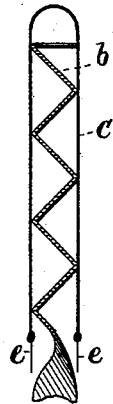
Patented June 11, 1889.



*Fig. 1.*



*Fig. 2.*



*Fig. 3.*

Witnesses.

*Eust. Lemmerper  
J. A. Hurdle*

Inventor.

*Chas. A. Backstrom  
E. B. Stocking  
Atty.-l*

# UNITED STATES PATENT OFFICE.

CHARLES A. BACKSTROM, OF NEW YORK, N. Y.

## INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 404,816, dated June 11, 1889.

Application filed March 26, 1889. Serial No. 304,783. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. BACKSTROM, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Incandescent Lamps, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is the provision of a form of incandescent electric lamp which shall be especially favorable for circuits in which there is a limited current for the working thereof.

A further object of my invention is the provision of as durable a lamp of this kind as possible, and one in which the greatest amount of light can be produced from a given current and length of carbon wire or filament.

To this end I have constructed my device in the manner described in the following specification, and with such novel features as are particularly pointed out in the claims at the end of the same.

In the drawings, Figure 1 is a side elevation of one of my electric lamps provided with a shade. Fig. 2 is a central vertical section of the base of one of my lamps, showing the attachment of my support thereto in side elevation. Fig. 3 is a side elevation of a modified form of my support.

The essential feature of my invention is the provision of an independent or auxiliary spiral support axially disposed for securing the carbon filament within the lamp. This support I prefer to have extend from the base of the lamp, as shown in the drawings, while the filament extends along the sides and over the same, touching it at points only, as shown. One of the preferred forms of this support is shown in Figs. 1 and 2—namely, a spiral, along the side of which the filament is attached at intervals, and through the top of which it passes, as shown. I do not confine myself to the exact form shown, nor to this spiral form at all, and in Fig. 3 is shown a zigzag support, at the turns or points of which the filament is attached, said zigzag being as narrow or as broad as desired for the purpose. This support may be made of any desired material that acts as a non-con-

ductor; but I prefer to make it of glass, spun or blown out of the same piece as that from which the body of the lamp is made, as this makes a very neat article, and has the further advantage of reflecting the light from its surface in every direction, and thus increasing the brilliancy of the lamp. I find that opaque white glass produces the best effect, but any kind or color of glass may be used, or transparent glass is also suitable. Of course in those cases in which some colored or opaque glass is used the support will not be formed from the body of the lamp. Instead, the support may be formed entirely before insertion, and may then be sealed into the lamp by blowing.

In the drawings, *a* is the bulb or lamp, and *b* the support. The arrangement of the filament over the support is shown at *c*, with the attachment which is shown at *e* to the leading-in wires.

I do not wish to be understood as limiting myself to the exact construction which is herein shown and described, as there may be various changes made through the exercise of mechanical skill without departing from the spirit of my invention.

What I claim is—

1. In combination with an incandescent electric lamp and the filament thereof, a spiral standard attached to the base of the lamp and axially disposed therein, substantially as described.

2. In combination with an incandescent electric lamp and the filament thereof, a spiral standard for the support of said filament attached to the base of said lamp, made of glass and axially disposed therein, substantially as described.

3. In combination with an incandescent electric lamp and the filament thereof, a spiral standard axially disposed within said lamp for the support of said filament and made out of the body of the lamp, substantially as described.

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

CHAS. A. BACKSTROM.

Witnesses:

HAROLD MACKAY,  
HEATH SUTHERLAND.