

A. LEDERER.
 INCANDESCENT ELECTRIC LAMP.
 APPLICATION FILED AUG. 30, 1906.

971,453.

Patented Sept. 27, 1910.

Fig.1

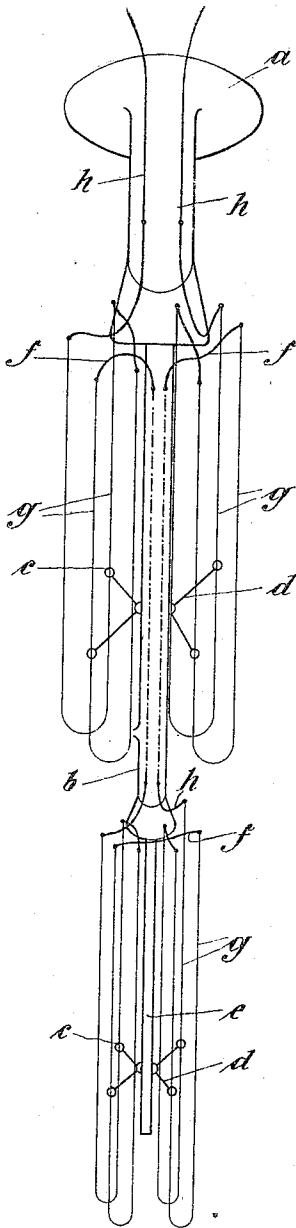


Fig.2

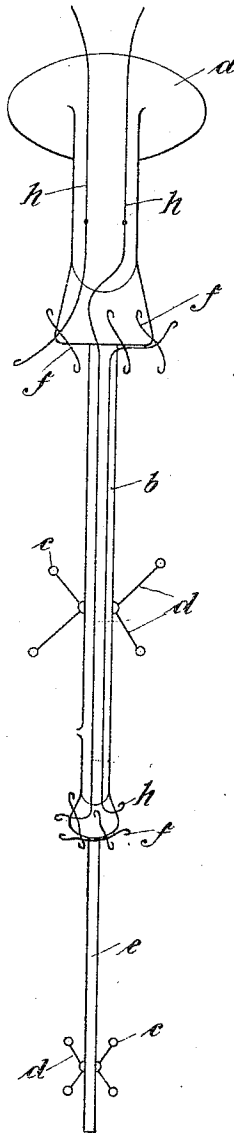
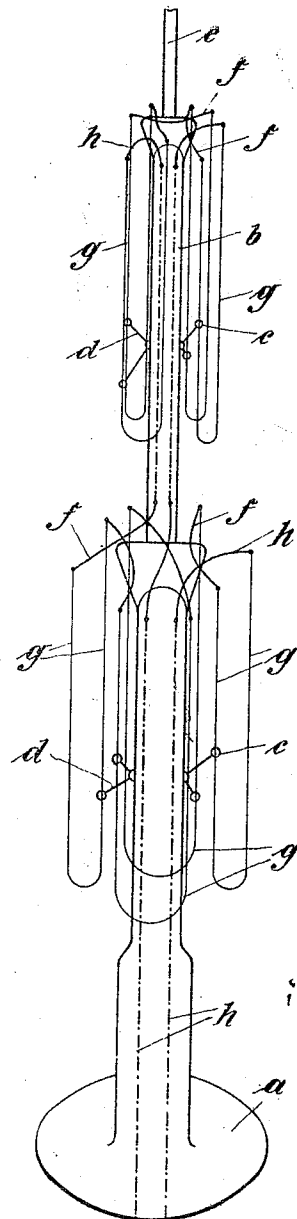


Fig.3



WITNESSES

W. P. Burke
 H. N. Siemichs

INVENTOR

Anton Lederer
 BY *Richard A. [Signature]*
 ATTORNEY

UNITED STATES PATENT OFFICE.

ANTON LEDERER, OF ATZGERSDORF, NEAR VIENNA, AUSTRIA-HUNGARY, ASSIGNOR
TO WESTINGHOUSE LAMP COMPANY, OF BLOOMFIELD, NEW JERSEY, A CORPORATION OF PENNSYLVANIA.

INCANDESCENT ELECTRIC LAMP.

971,453.

Specification of Letters Patent. Patented Sept. 27, 1910.

Application filed August 30, 1906. Serial No. 332,721.

To all whom it may concern:

Be it known that I, ANTON LEDERER, a subject of the Empire of Austria-Hungary, residing at No. 83 Atzgersdorf, near Vienna, in the Province of Lower Austria and Empire of Austria-Hungary, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

The invention relates to the construction of incandescent electric lamps employing fragile filaments such, for instance, as those made of brittle metals, the object being to provide a means for supporting suitable lengths of filament in a convenient manner, reducing, as far as practicable, the liability to breakage.

In the accompanying drawings, Figure 1 is an elevation of a support for the filaments with the filaments in position; Fig. 2 shows the support without the filaments; and Fig. 3 illustrates a modification.

Referring to Figs. 1 and 2, *a* represents the stem of the lamp. It is provided with an extension, *b*, which may be either tubular or solid. Within this extension are placed conducting wires, *h, h*, for the electric current. In case the extension is solid these conducting wires will be embedded within the glass or other suitable material forming the support. Guides or supports, *c, c*, are provided at proper intervals for anchoring or supporting the filaments, *g, g*. The supports *c* are applied to the filaments in any convenient manner. The supports *c* are fastened to the extension *b* by means of wires *d*. At the end of the extension *b* there is fastened a second extension of similar character designed to receive any required number of filaments and it is provided with an extension *e* carrying hooks or supports *c* supported in like manner by wires *d*. Terminal supports *f* are provided for receiving the ends of the filaments which are carried by the last named extension. The leading-in wires, *h, h*, are here shown as being so arranged in Fig. 1 as to connect all the filaments in series. In Fig. 2, one of the lead-

ing-in wires may be made.

In Fig. 3 an arrangement is shown in which the filaments hang toward the stem of the lamp instead of from the stem as in Figs. 1 and 2.

Filaments arranged according to the manners herein set forth are readily adaptable to being connected in multiple or in series or having their circuit connections changed as required.

I claim as my invention:

1. In an electric lamp, a filament support, a light-giving portion surrounding said support and arranged in lines substantially parallel to its axis, an extension for said support, and a second light-giving portion similarly arranged and surrounding the said extension.

2. In an electric lamp two light-giving portions each arranged in the form of a hollow cylinder, the lines of the filament forming such cylinder being substantially parallel with its axis.

3. In an electric lamp a filament support surrounded by the light-giving portion arranged to form luminous lines substantially parallel with its axis, a second support coaxial with the former and similarly surrounded by a second light-giving portion also arranged to form luminous lines substantially parallel with its axis.

4. In an incandescent electric lamp, the combination of a central supporting stem, a series of incandescent filaments of U-shape form, supports for said filaments at or near one end of the central support, a second series of filaments arranged around an extension of said support in a similar manner, and supports for the second set of filaments located beyond the looped portions of the first series of filaments.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ANTON LEDERER.

Witnesses:

JOHANN LUXT.

ALVESTO S. HOGUE.