

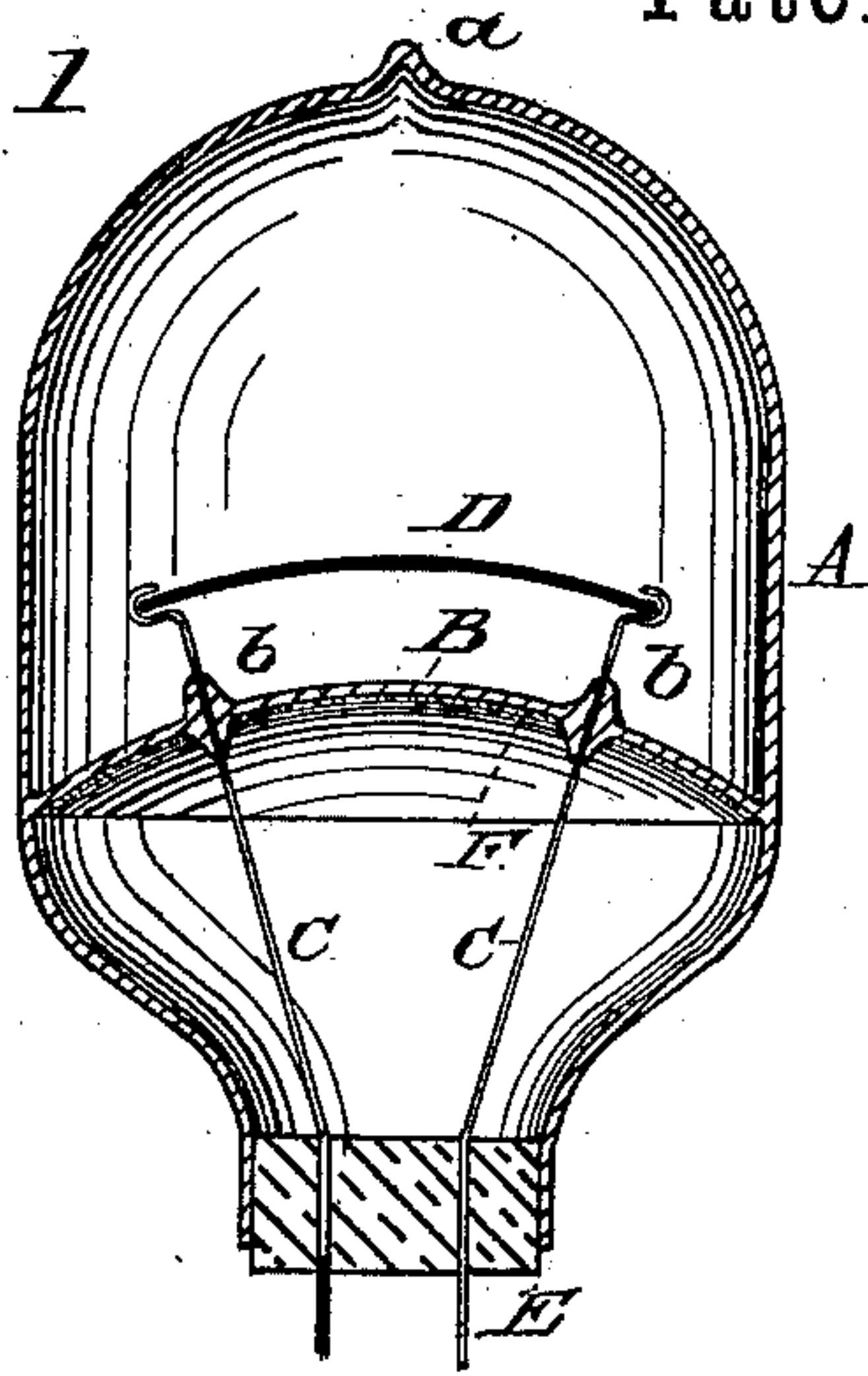
(No Model.)

A. WELSH.  
ELECTRIC LAMP.

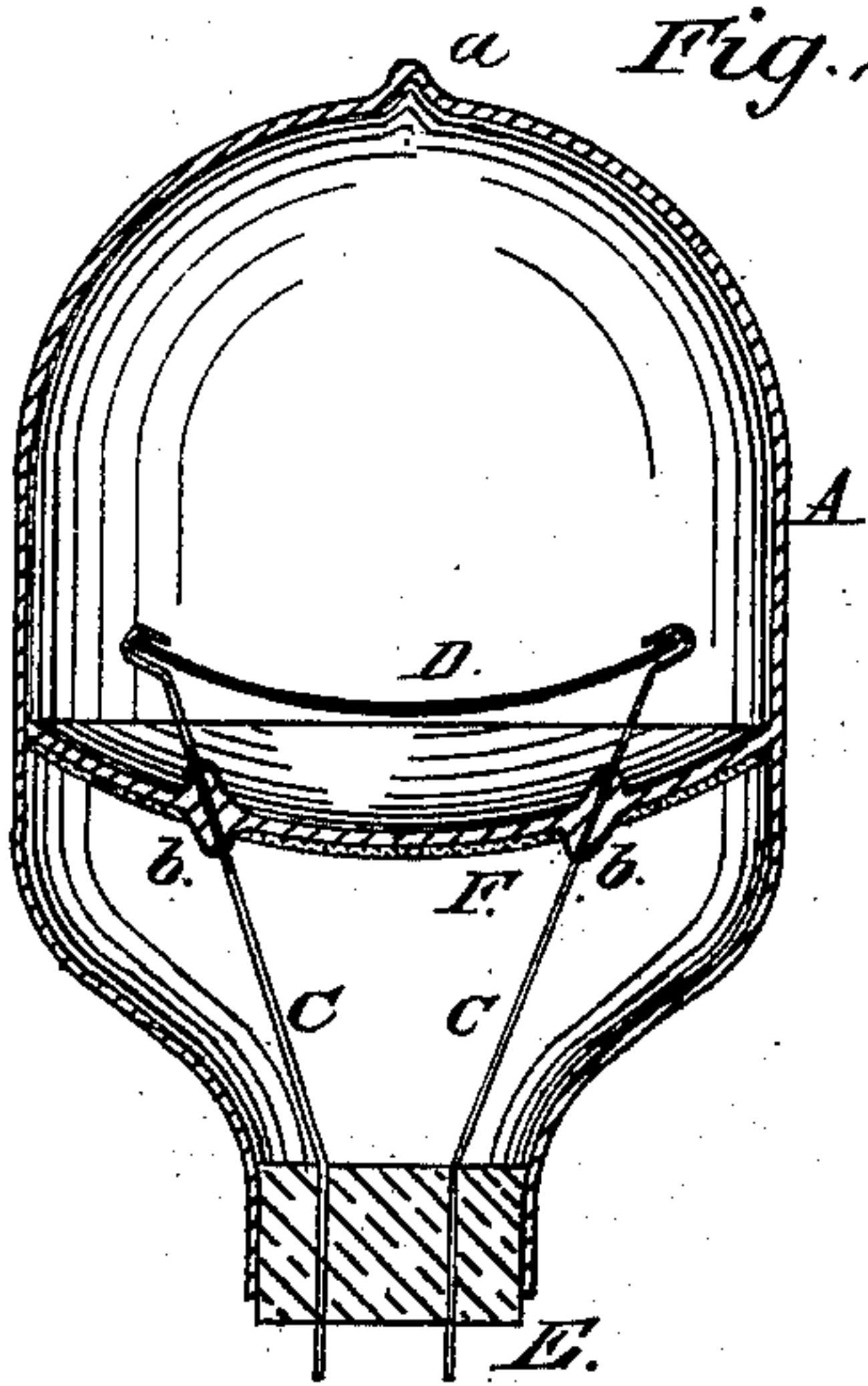
No. 299,885.

Patented June 3, 1884.

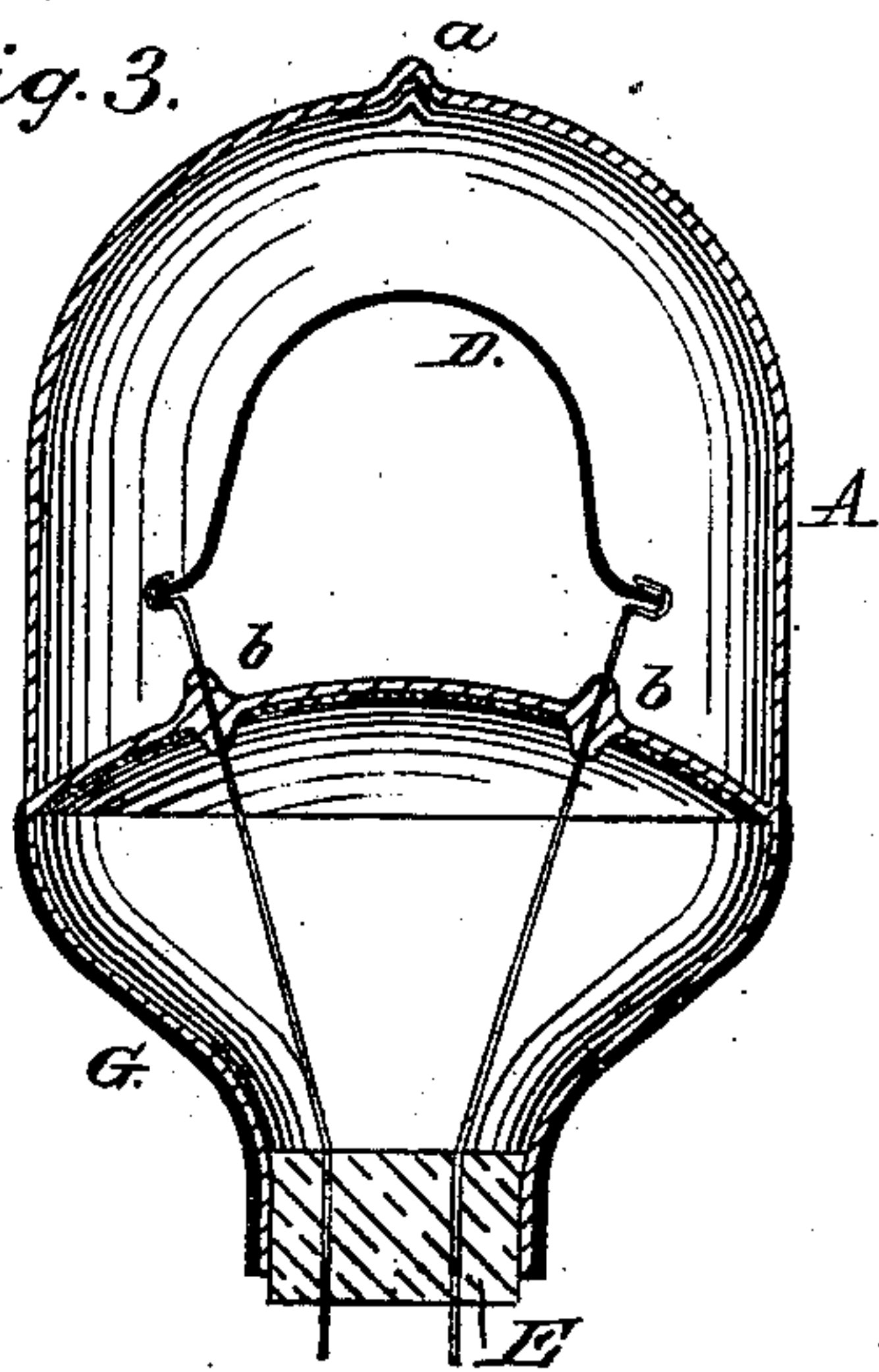
*Fig. 1*



*Fig. 2.*



*Fig. 3.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 299,885, dated June 3, 1884.

Application filed August 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER WELSH, residing at St. Denis, Baltimore county, Maryland, have invented certain new and useful  
5 Improvements in Electric Lamps, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a vertical cross-section of my  
10 improved lamp arranged to diffuse the light. Fig. 2 is a similar view of a modified form of lamp arranged to concentrate the light. Fig. 3 is a similar view of a lamp arranged to diffuse the light, but provided with a modified  
15 form of filament from that shown in Fig. 1.

The object of my invention is to provide incandescing electric lamps with means for intensifying or subduing the quality of light emitted from the carbon filaments; and to  
20 this end my invention consists in forming a mirror or reflecting surface under the base of the globe. It also consists in forming the said base with teats whereby the wires are sealed above and below the base and insulated  
25 from the mirror.

Referring to the drawings, A designates the globe or body of my improved lamp, which is formed from a glass tube open at both ends. The sides of the body are about straight,  
30 while its top is restricted (while the glass is in a semi-molten state) to a small aperture at *a*, through which the air within the globe of the completed lamp is exhausted, the said aperture being thereafter sealed by fusion. After the top of the globe has been formed the  
35 body A is severed from the stock or tube, the lower end of said body being left open. The base B is formed of a separate piece from the body A, and is in the shape of a tube closed  
40 at its upper end by a concavo-convex portion, as shown, the lower end of said base being restricted to form an aperture to receive a plug, E, of cork, rubber, or other suitable material of like nature. The upper part of  
45 the base B is united to the lower part of the globe A by fusion. The wires C pass upward through the plug E and also through the curved portion of the base B. On the under side of the curved portion of the base B is  
50 formed a mirror or reflecting surface, F,

which is composed of foil or silver paper; or by silvering the under side of said curved portion at the points where the wires C pass through the upper curved portion of the base B the latter is formed with teats *b* extending above and  
55 below the said curved surface. These teats serve as the means for sealing the wires C, such teats being closed around said wires by fusion, and their under portions serve also to completely insulate said wires from the mirror or  
60 reflecting surface F, which would otherwise short-circuit the light current. The mirror is entirely inside the base and thus protected from dust and the action of moisture in the atmosphere. When the light emitted from  
65 the filaments D is to be diffused, the curved portion of the base B is formed with its convex face upward, as shown in Figs. 1 and 3, while, when said light is to be concentrated, the said curved portion is formed with its  
70 concave face upward, as shown in Fig. 2. The filament D shown in Fig. 1 is curved to correspond to the curvature of the upper convex surface of the base B, and this arrangement gives about the average quality of diffused  
75 light. The filament shown in Fig. 3 is formed with a much greater curvature than that shown in Fig. 1, and this arrangement gives about the maximum quality (in intensity) of the diffused light. The filament shown in Fig. 2 is  
80 curved to correspond with the curvature of the upper concave surface of the base B, and this arrangement gives about the average quality of concentrated light. In every instance, of course, one extremity or portion of  
85 the filament should be connected to the one pole or wire, C, and the opposite extremity to the opposite wire.

A further modification is shown in Fig. 3, wherein a metallic cover, G, surrounds the  
90 base and is burnished or polished on its interior so that it will serve as a reflector.

I am aware that the transparent bulbs of incandescing electric lamps have been coated partially with reflecting deposits or provided  
95 with mirror-surfaces, and I do not claim, broadly, a lamp so provided.

Having thus described my invention, I claim—

1. An incandescing electric lamp having 100

its filament-chamber separated from an attached closed chamber by a wall which has its surface outside of the filament-chamber covered by a metallic reflecting-covering, substantially as described.

2. In an incandescing electric lamp, the filament-chamber having a portion of its transparent inclosing wall provided with two outwardly-projecting teats through which the leading-in wires are sealed, said portion of

wall having its outer surface provided with a metallic reflecting deposit through which said teats project and insulate the same from the leading-in wires, substantially as described.

In testimony whereof I affix my signature.

ALEXANDER WELSH.

Witnesses:

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