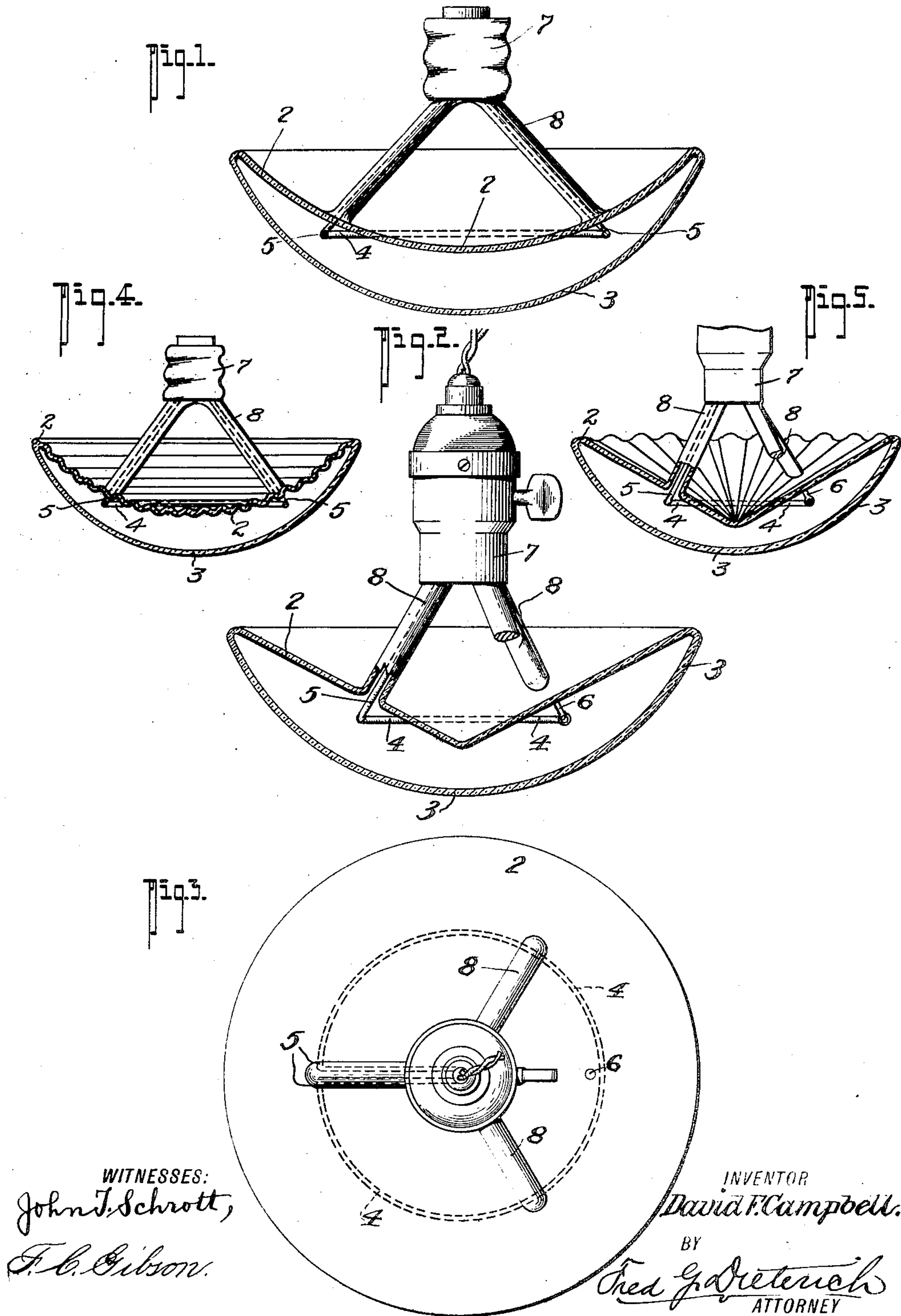


No. 845,053.

PATENTED FEB. 26, 1907.

D. F. CAMPBELL.  
INCANDESCENT LAMP BULB.  
APPLICATION FILED NOV. 15, 1904.





# UNITED STATES PATENT OFFICE.

DAVID F. CAMPBELL, OF VANCOUVER, BRITISH COLUMBIA,  
CANADA.

## INCANDESCENT-LAMP BULB.

No. 845,053.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed November 15, 1904. Serial No. 232,848.

*To all whom it may concern:*

Be it known that I, DAVID F. CAMPBELL, a citizen of the Dominion of Canada, residing at the city of Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Incandescent-Lamp Bulbs, of which the following is a specification.

My invention relates to an improved form and construction of an incandescent electric light bulb of which is particularly designed to allow a better light to be given out and to direct such, well defused, in one general direction.

The form of the bulb is also well adapted to the application of a silvered surface on the upper side as a reflector.

In an incandescent-lamp bulb of ordinary form it is a well-known fact that an appreciable amount of light is wasted by the interference of the rays from the adjacent sides of the filament, and if a reflecting-surface is placed within the bulb to prevent such interference of opposing rays the considerable heat to which it is subjected rapidly destroys the silvering of it.

My object has therefore been to form a bulb the inner surface of the back or upper side of which is interposed within the circle of the filament, so that it will prevent the conflict of opposing rays of light from it and will reflect the more oblique ones to the front. This interposed side of the bulb is also fully exposed to the air, so that it will not be excessively heated, and may be silvered as a reflector.

The particular form of the bulb and the form and position of the filament by which I attain these results is fully described in the following specification, and illustrated in the drawings which accompany it.

Figures 1 and 2 being vertical sections through bulbs of alternative form, and Fig. 3 a plan showing the form of the filament and the manner of its attachment. Figs. 4 and 5 are detail views of slightly-modified forms of my invention, hereinafter specifically referred to.

The form of bulb can best be described as a hollow segment of a sphere, but having the back or upper side 2 flattened and depressed within the inner convexity of the front or under side 3, the form of the back depressed portion 2 being either a section of

an approximate spherical surface, as illustrated in Fig. 1, or an inverted flattened cone, as in Fig. 2.

The filament 4 is circular and is placed about half-way up the surface of the upper portion 2 and far enough away from it to obtain the best advantage of its reflecting-surface. The terminals 5 of the filament may either be at opposite sides of its circle, as shown in Fig. 1, in which case the current will divide and flow through each half of it, or the terminals may be together, as shown in Fig. 2, when the current will flow through the entire circle of the filament in which case it will be desirable to afford a support to the filament at a point diametrically opposite to the terminals 5.

The bulb may be attached to the socket-screw 7 by glass stems 8 on the upper side, through one or two of which, as the case may require, the platinum terminal wires will pass.

The manner in which the bulb is supported in not, however, material to the purpose of this application, the invention being particularly directed to the form of the bulb and the interposition of the back or upper side of it within the ring of the filament, as even without silvering, owing to the oblique angle at which the upward and inward rays of light will strike the interposed side the greater proportion of them will be projected forward through the front side of the bulb; but this particular form also permits of the silvering of the upper side as a complete reflector for being exposed to the atmosphere. As described in the preamble to this specification, the silvering cannot become heated to an extent to injuriously affect it.

Either side of the bulb may be corrugated or fluted circumferentially or radially to modify or vary the projection of the light-rays. (See Figs. 4 and 5.)

Having now particularly described this invention and the manner of its application, I hereby declare that what I claim as new, and desire to be protected in by Letters Patent, is—

1. An electric incandescent lamp comprising a bulb consisting of a front and a back portion, said front portion being formed of sheet transparent material shaped as the segment of an approximate sphere, said back portion of the bulb being formed of sheet transparent material and projecting within



the front portion of the bulb, supporting members connected with the back portion of the bulb, a terminal plug connected to said supporting members, a ring filament held within the bulb between the front and back portions thereof, terminals passing through one of said supports and connecting the filament with the terminal plug, said back portion of the bulb projecting within the circle of the filament substantially as shown and for the purposes described.

2. An electric incandescent lamp comprising a bulb consisting of a front and a back portion, said front portion being formed of sheet transparent material shaped as the segment of an approximate sphere, said back portion of the bulb being formed of sheet transparent material and projecting within the front portion of the bulb, supporting members connected with the back portion of the bulb, a terminal plug connected to said supporting members, a ring filament held within the bulb between the front and back portions thereof, terminals passing through one of said supports and connecting the filament with the terminal plug, said back portion of the bulb projecting within the circle of the filament, said back portion of the bulb

having its outer face concaved and said front portion of the bulb having its outer face convexed substantially as shown and described.

3. In an electric incandescent lamp-bulb comprising a front and a back portion, said front portion being formed of sheet transparent material formed substantially in the shape of a spherical segment, said back portion of the bulb being similarly formed and projected into the concavity of the front portion of the bulb, one of said portions of the bulb being provided with flutes or corrugations, a ring filament supported within the bulb and arranged parallel to the line of juncture between the back and front portions of the bulb, means for supporting the bulb to the socket of the lamp, and means for connecting the filament to the current-contacts of the socket substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID F. CAMPBELL.

Witnesses:

ROWLAND BRITTAIN,  
ELLICE WEBBER.