

No. 681,692.

Patented Sept. 3, 1901.

P. A. GIBBINS.
ELECTRIC INCANDESCENT LAMP.

(Application filed Feb. 18, 1899. Renewed Jan. 16, 1901.)

(No Model.)

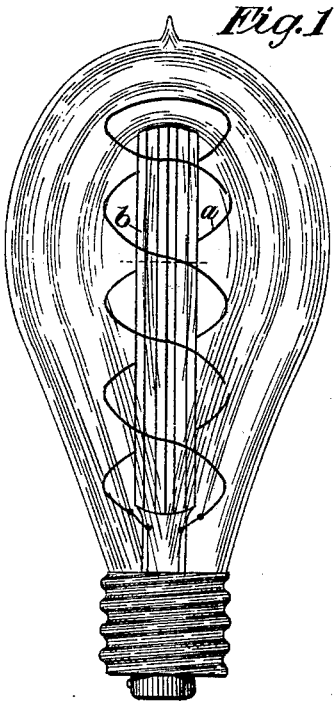


Fig. 1



Fig. 2



Fig. 4

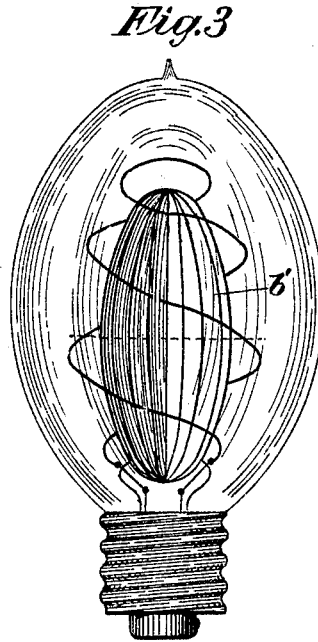


Fig. 3

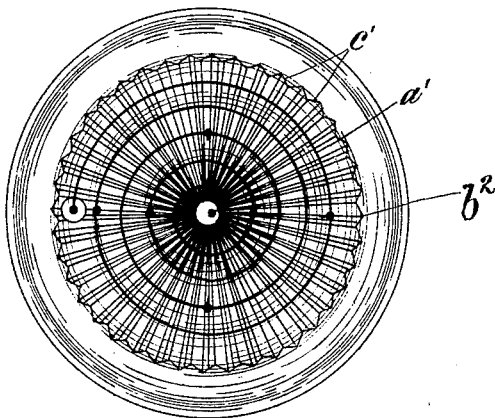


Fig. 6

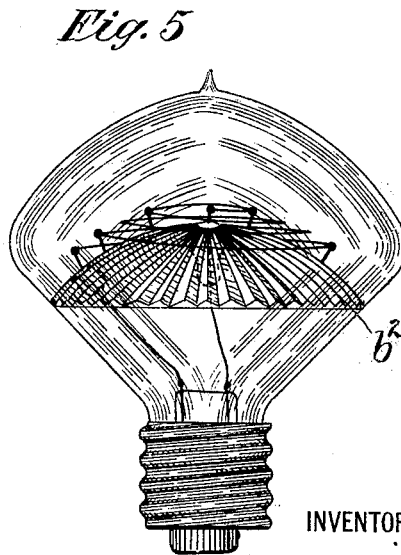


Fig. 5

WITNESSES:

J. B. Hain
Herbert J. Hain

INVENTOR

Patrick A. Gibbins

BY

Deymon & Harn

ATTORNEYS

UNITED STATES PATENT OFFICE.

PATROCLES AUSTIN GIBBINS, OF NEW YORK, N. Y.

ELECTRIC INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 681,692, dated September 3, 1901.

Application filed February 18, 1899. Renewed January 16, 1901. Serial No. 43,519. (No model.)

To all whom it may concern:

Be it known that I, PATROCLES AUSTIN GIBBINS, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Electric Incandescent Lamps, of which the following is a specification.

The object of my invention is to produce a lamp for electric incandescent lights which shall utilize the actual radiant power of the filament and at the same time diffuse the light over a large area.

In the drawings forming part of this specification, Figure 1 is a view of the lamp made in accordance with my invention. Fig. 2 is a section of the reflector. Fig. 3 is a view of a lamp having a reflector of a slightly-different shape. Fig. 4 is a cross-section of said reflector. Fig. 5 is a view of a lamp such as is used on the ceilings or in the frieze of walls, with a modified form of reflector. Fig. 6 is a plan view of the same.

The lamp and socket, with connections for wires, do not differ from those now in use. The filament *a* itself is in the form shown in Fig. 1 in the shape of a helix, and within said helix is placed a reflector *b*, of glass or suitable transparent material, in the form of a hollow cylinder. The surface of this cylinder is preferably made up of a series of prisms *c*, as clearly shown in Fig. 2. The interior of the cylinder is coated with any suitable substance *d* to make a reflecting-surface. I use, preferably, some form of enamel. The rays of light from the incandescent filament are by the shape of this reflector thrown out into the room with practically no loss of radiant power. As a matter of fact, in using such reflector the lamp has the appearance of a luminous bulb, the line of the filament not being discernible.

The advantages of having the surface of the reflector in the shape of a series of prisms will be so obvious to those skilled in optics that they need not be specifically mentioned. Good results would follow were the surface of the reflector perfectly plain; but I prefer to use the prismatic shape, as shown. This reflector may be secured in the lamp in any suitable way.

In Fig. 3 I have shown the reflector *b'* as of oval shape instead of cylindrical, the surface being of prismatic form, as in the first instance.

In Figs. 5 and 6 I have shown a modification of my light intended to be used in that class of lamps which are placed on the ceiling or in the frieze of walls. The general shape of this reflector *b²* is that of the segment of a hollow sphere. The filament *a'* is coiled in a spiral shape, the reflector being within the coils of the spiral. The surface of this reflector is made up of a series of prisms *c'*, as clearly shown in the drawings. As in the other case, the surface of this reflector may be plain; but the best results follow from the prismatic surface. This reflector in this case is also made of glass or any suitable transparent substance coated on the back with any suitable composition for making a reflecting-surface. In making the lamp shown in Fig. 5 I would preferably make the socket, the inlet-piece for wires, the lower part of the lamp, and the reflector as separate parts, they being secured together in any suitable manner. The upper part of the lamp, as shown in Fig. 5, would be secured to the lower part by the ordinary process of connecting parts made of glass. When the filament in the lamp has become exhausted, the upper part of the bulb would be broken away and a new filament placed in and a new glass top placed on, thus producing a new bulb at very small expense. By the use of said construction I am enabled to increase the effective candle-power of the lamp without concentrating the light on a small area.

Instead of making these reflectors of transparent material with a reflecting-coating I may make them of a reflective substance—such, for instance, as polished metal.

The reflector shown in Figs. 1 and 2 may be used with any ordinary incandescent lamp having a filament of a loop form.

What I claim, and desire to secure by Letters Patent, is—

1. In an incandescent electric lamp, the combination of the bulb having the ordinary socket and neck, a filament arranged in the form of a spiral, both ends of said filament being secured to said neck, a reflector inclosed

by said filament, the surface of the reflector being in the form of a series of prisms, substantially as described.

- 5 2. A reflector for incandescent electric lamps consisting of a body adapted to be inclosed or encircled by a filament, the surface of said body being formed of a series of prisms, substantially as described.

Signed at New York, in the county of New York and State of New York, this 31st day of 10 January, A. D. 1899.

PATROCLES AUSTIN GIBBINS.

Witnesses:

E. M. HARMON,
HERBERT J. LILLIE.