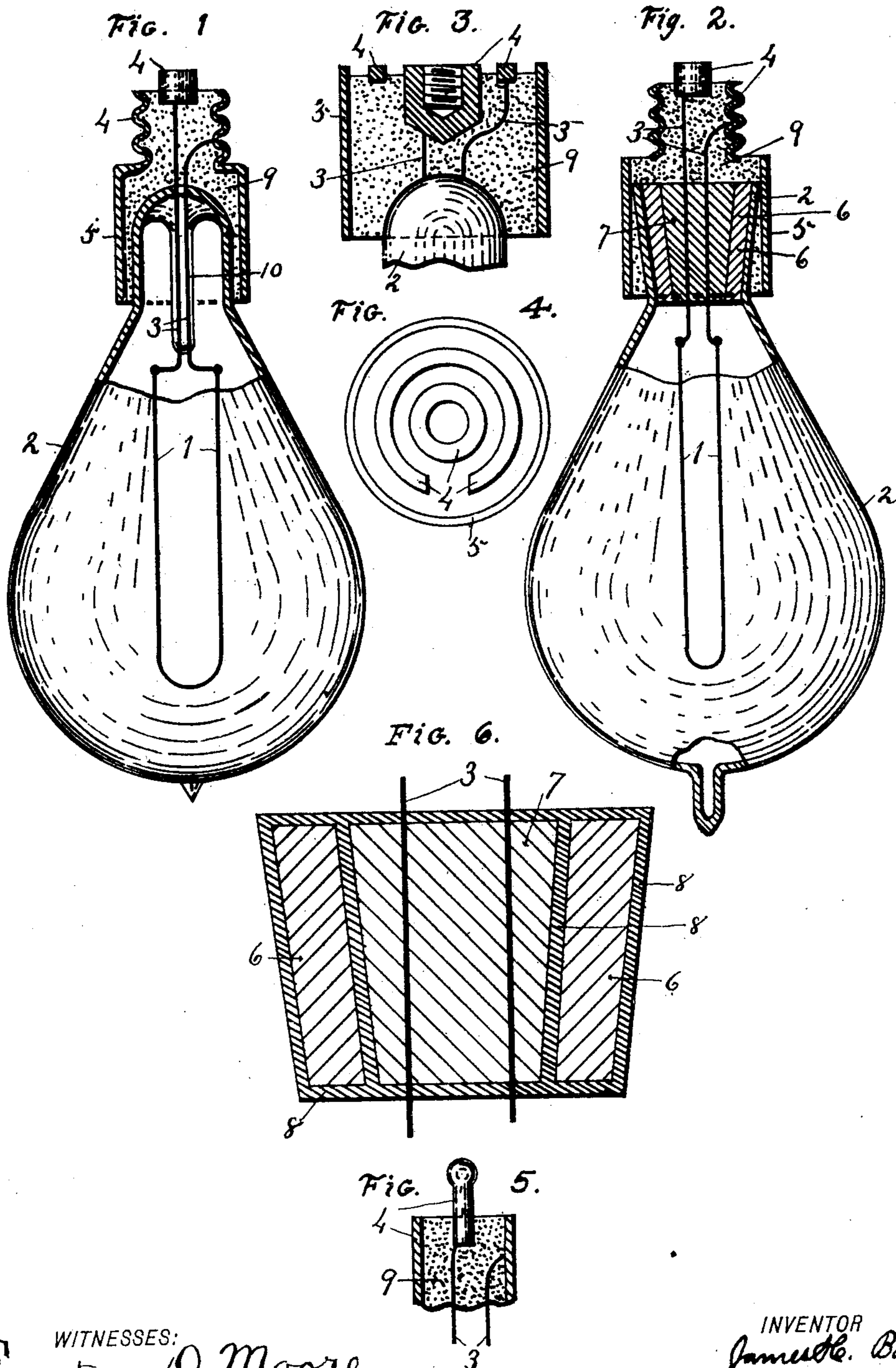


(No Model.)

J. H. BATES.
INCANDESCENT ELECTRIC LAMP.

No. 503,108.

Patented Aug. 8, 1893.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES H. BATES, OF HOBOKEN, NEW JERSEY.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 503,108, dated August 8, 1893.

Application filed January 19, 1893. Serial No. 458,889. (No model.)

To all whom it may concern:

Be it known that I, JAMES HERVEY BATES, a citizen of the United States, and a resident of the city of Hoboken, in the county of Hudson, in the State of New Jersey, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

My invention relates to incandescent electric lamps.

Its object is to so arrange the lamp that the filament may be renewed without destroying the glass bulb. To this end I make the bulb with an open neck, and I insert into the neck a tapered plug, either with a surrounding tapered collar, and I make the plug, and the collar, preferably of some elastic material, such as gutta-percha or caoutchouc. I thus produce a lamp which is very simple, cheap, and economical to use, and the filament may be renewed when necessary without injury to any other part.

In the accompanying drawings I have thought it desirable to show one or two of the common forms of lamp now on the market, to more perfectly illustrate the difference between them and my invention.

Figure 1 is a side view, partly in section, showing the common form of Edison lamp. Fig. 2 is a similar view of a lamp containing my invention. Fig. 3 is a sectional view of the base portion of a Thomson-Houston lamp. Fig. 4 is an end view of the latter. Fig. 5 is a section of the base of a Westinghouse lamp; and Fig. 6 is an enlarged longitudinal section of the tapered collar and plug which I employ in carrying out my invention.

In these figures,—1 is the filament.

2 is the lamp bulb.

3 are the terminals of the filament.

4 are the contact pieces at the end of the terminals.

5 is the base, which is ordinarily formed of a metal collar filled with plaster of paris.

6 is a tapered collar, which fits into the inwardly tapering open end of the bulb 2. (See Figs. 2 and 6.) 7 is a tapered plug, which fits into said collar.

8 is a thin layer of wax, paraffine, or equivalent material, surrounding the plug and the collar and serving as a packing for the same.

9 is the plaster of paris filling of the base already mentioned.

By my invention I avoid the necessity of the inward projection of the glass, 10, (Fig. 1,) which is found in all closed glass bulbs now in use.

Except as pointed out in the claims, I do not wish to limit myself to the specific details shown and described, as the same are intended to be merely illustrative.

It is obvious that my lamp may be adapted to any form of lamp socket, and the contact pieces may be arranged to suit the same.

I claim—

1. The combination, substantially as set forth, in an incandescent lamp, of a bulb provided with an inward tapering neck, a tapered collar fitting in said neck, a solid tapered plug fitting in said collar, a packing of paraffine or equivalent material surrounding the collar and the plug, and the terminals of the filament extending through the plug.

2. The combination, substantially as set forth, of a lamp bulb provided with a neck tapering inward, a tapered collar fitting therein, a solid tapered plug fitting in the collar, and carrying the leading-in wires, a packing of paraffine or equivalent material surrounding the plug and the collar, and a lamp base secured to the neck of the bulb.

3. The combination, substantially as set forth, of a bulb provided with an open neck, a collar fitting in said neck, a solid tapered plug and filament terminals carried by and passing through the plug fitting into the collar, both collar and plug being held in place by the outside atmospheric pressure.

4. The combination, substantially as set forth, of a lamp bulb provided with an open neck tapered inward, a tapered collar fitting said neck, a solid tapered plug fitting said collar, the collar and plug being adapted to form an air-tight closure for the hub, and a base secured to the neck of the bulb.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of January, 1893.

JAMES H. BATES.

Witnesses:

ERASTUS D. MOORE,
JNO. L. MOORE.