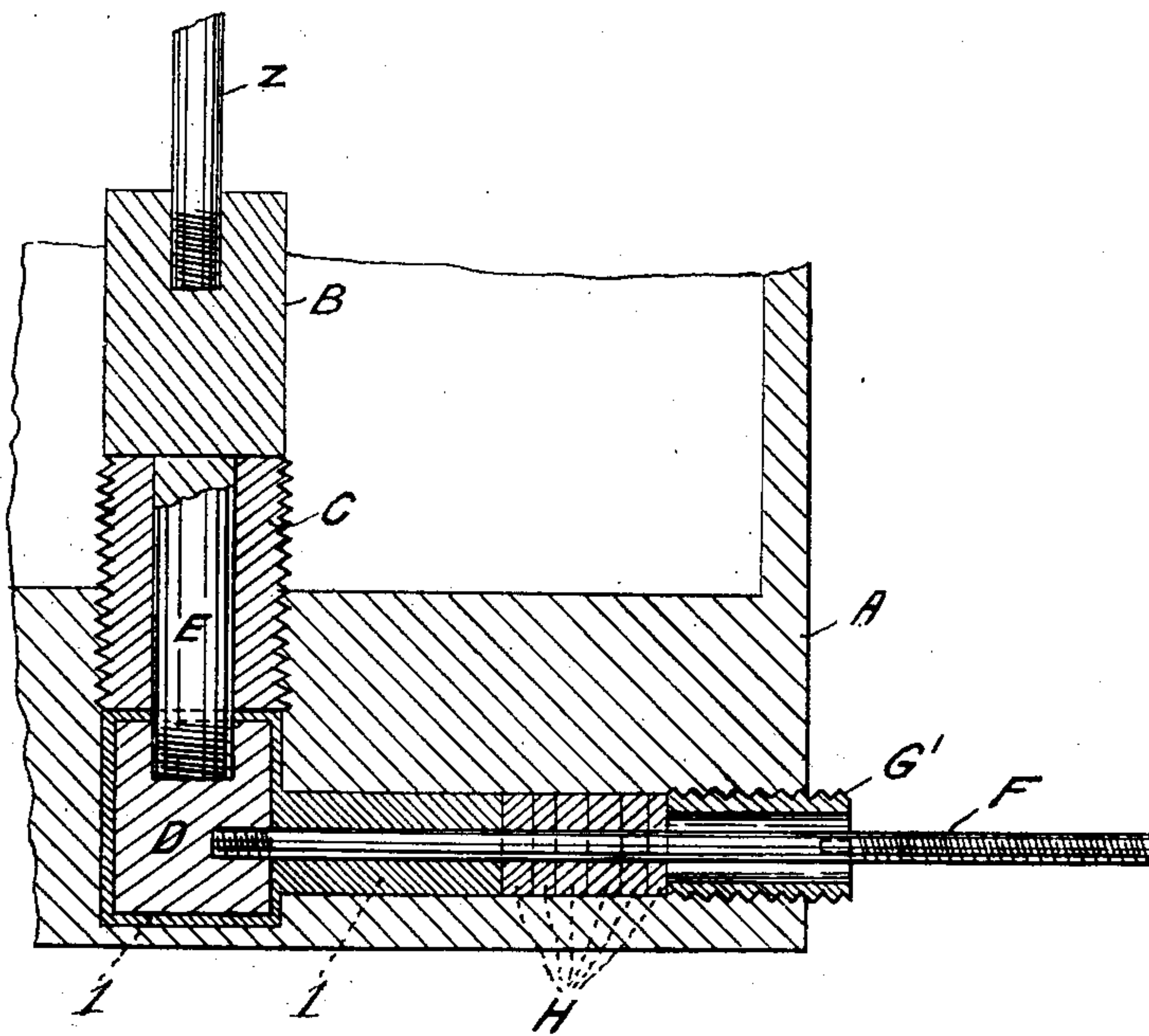


W. SAWYER.
Electric-Lamp.

No. 228,122.

Patented May 25, 1880.



WITNESSES.
E. R. Knowles.
F. L. Ronlaud

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UNITED STATES PATENT OFFICE.

WILLIAM SAWYER, OF NEW YORK, N. Y.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 228,122, dated May 25, 1880.

Application filed January 14, 1880.

To all whom it may concern:

Be it known that I, WILLIAM SAWYER, of the city, county, and State of New York, have invented certain new and useful Improve-
5 ments in Electric Lamps, of which the following is a full, clear, and exact description.

My invention relates to that method of electric lighting in which a pencil of carbon, hermetically sealed in a glass globe charged with
10 nitrogen gas, is rendered incandescent by the passage of the electric current, and is more particularly an improvement upon the electric-lamp invention of Mr. W. E. Sawyer, Letters Patent of the United States No. 219,771, dated
15 September 16, 1879.

This invention has specially for its object the perfect insulation of the conductor where it passes through the base of the lamp.

The accompanying drawing, constituting a
20 part of this invention, is a section through a portion of the base of the lamp and the insulating devices.

The cup or base A is shown partially cut away. C is a wood-fiber (or other insulating
25 material) plug, screwing into the bottom of the cup A. Passing through the fiber plug is a metal rod, E, having an enlarged head, B. Into this enlarged head the end of the spiral Z is screwed, as shown. Below the wood-fiber
30 plug is a cap, D, screwing onto the end of the rod E, but itself not touching the base A, a space of about one-sixteenth of an inch being left all around the cap. Into the side of the cap D screws a copper conductor, F, provided
35 at its exit from the lamp with a thread, by means of which and two nuts (not shown) electrical connection may be established with the insulated conductor Z.

My method of sealing this joint is as follows:
40 I turn the lamp upon one side, and into the hole through which passes the conductor F, I pour melted sealing-wax or other insulating material, I, liquefiable by heat. This fills up and hermetically seals the entire space between the plug C, cap D, and the base A.
45 Outside of the sealing-wax, as a further pre-

caution, I place several pure rubber washers, H, which I finally compress by the screw-plug G', so that should the sealing-wax joint fail
me I shall have as perfect an elastic joint as 50 is possible to obtain.

If desired, the rubber may be melted and poured into the space; but in practice I have not found that necessary with the pure, and therefore soft, gum. 55

Having thus fully described my invention, what I claim as such, and desire to secure by Letters Patent, is—

1. The method of hermetically sealing the insulated conductors of an electric lamp, which
60 consists in making the opening through which the conductor passes somewhat larger than the conductor, filling the space around the conductor with a solid sealing material liquefiable by heat, and closing the ends of the
65 opening with an elastic insulating washer or filling or a screw-plug, substantially as and for the purpose set forth.

2. The combination of the conductor F, the solid sealing material I, liquefiable by heat, 70 filling the space around the conductor and the elastic insulating filling or washers H, substantially as and for the purpose set forth.

3. The combination of the conductor F, the solid sealing material I, the elastic washers or
75 filling H at the ends of the sealing material I, and the screw-plug G, substantially as and for the purpose set forth.

4. The combination of the conductor F, the solid sealing material I, liquefiable by heat, 80 the insulating-plug C, and the elastic insulating-filling H, substantially as and for the purpose set forth.

5. The combination of the conductor B D F, screw-plug C, solid sealing material I, lique- 85 fiable by heat, elastic filling H, and screw-cup G, substantially as and for the purpose set forth.

WM. SAWYER.

Witnesses:

E. R. KNOWLES,
F. L. ROWLAND.