(No Model.)

J. N. PEW.

INCANDESCENT GAS LAMP.

No. 422,536. Patented Mar. 4, 1890.

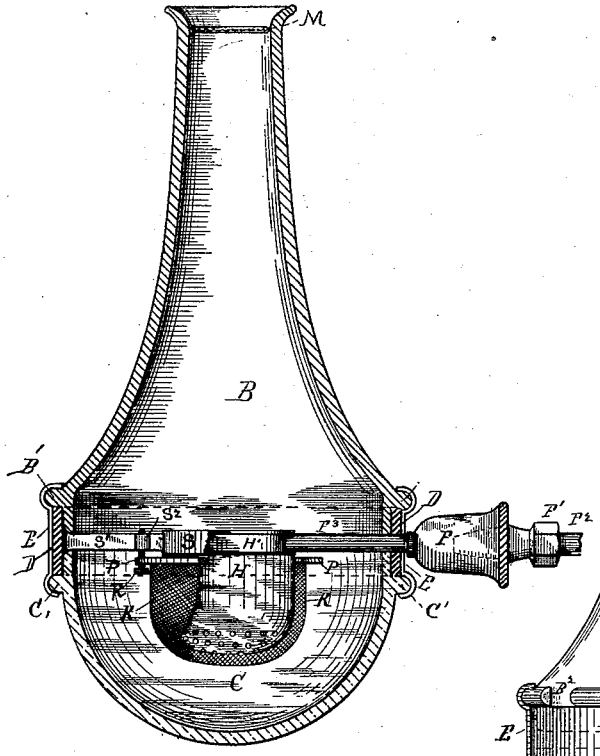

Fig. 2.

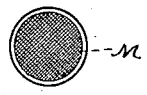

Fig. 4.

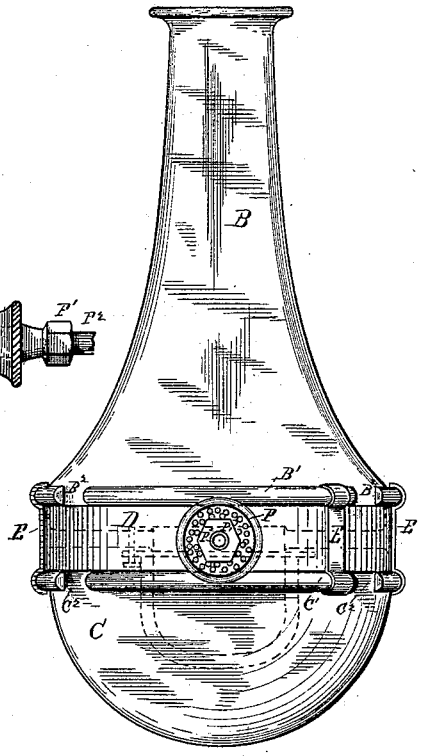

Fig. 1.

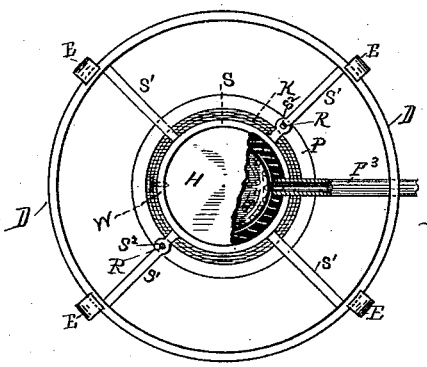

Fig. 3.

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JOSEPH N. PEW, OF PITTSBURG, PENNSYLVANIA.

INCANDESCENT GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 422,536, dated March 4, 1890.

Application filed May 6, 1889. Serial No. 309,688. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH N. PEW, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Incandescent Gas-Lamps, of which improvement the following is a specification.

The purpose of my invention is to make an incandescent gas-lamp which shall be brilliant, durable, and adapted to burn natural as well as artificial gas.

In the accompanying drawings, which make part of this specification, Figure 1 is a side elevation of my lamp. Fig. 2 is a longitudinal central section of Fig. 1, with a side elevation of the mixer, burner, and incandescent gauze, the latter being partly broken away. Fig. 3 is a plan view of the lower half of the lamp, the upper half having been removed. The top of the burner is here partly broken away. Fig. 4 is a side elevation of the mesh inserted in the top of the lamp.

The lamp is composed of the following parts: The upper half B is made preferably, but not essentially, of the shape shown in Figs. 1 and 2. Ground glass is the most desirable material to use for this piece, as it will permit the light to pass through and illuminate the ceiling. If an opaque top is preferred, tin or thin sheet metal may be substituted. The lower half C is preferably, but not necessarily, made bowl-shaped, as shown in views 1 and 2. Ground or clear glass may be used, according to the intensity of light desired. Parts B and C are held together by a flat ring D and the double-headed clamps E E, which clasp the flanges B′ C′ on the parts B and C, respectively.

B^2 B^3 C^2 C^2 are slots cut in the flanges B′ C′. By turning the upper or lower parts B or C the clamps E E may be turned into these slots and either B or C detached.

The burner is of iron and cast hollow. It consists of a neck H′ and bowl-shaped base H. A number of small perforations are made in the bottom of the burner. A ring S, fitting closely around the neck H′ of the burner H, rests upon the ledge of the burner between the neck H′ and base H. It is fastened to the neck H′ by the screw W. Radial arms S′ S′ connect the rings S and D.

From the ring P, which encircles the burner H immediately below the ring S, hangs a gauze K, which may be made of any refractory material which will become incandescent. By the screws R R, working in the sockets S^2 S^2 in the two opposite radial arms S′ S′ and extending through the ring P, which is threaded, the ring P, with the hanging gauze K, may be set to any required point for the purpose hereinafter described.

Gas is admitted to the lamp through the feed-pipe P^2, mixer F, and pipe F^3.

P′ is the union connecting P^2 to the mixer F.

Many known makes of mixers may be used. The one here shown is the common Bunsen mixer or burner.

M is a gauze-covered circular ring to drop in the top of the lamp to keep out dirt, insects, &c.

When the lamp is in use, the gas enters the air-mixer F, where it is thoroughly mingled with air drawn in by the force of the gas passing through the pipe P^2 into the union. The mixer is so adjusted that sufficient air will be drawn into the burner H to insure perfect combustion. The combined air and gas then pass through the pipe F^3 into the chamber in the hollow base of the burner and out through the perforations in the bottom of such burner, where it is lighted by removing the globe C, which is then replaced.

The following advantages will now be apparent from the above description: The combined gas and air will be thoroughly heated before combustion while passing through the hollow burner H by the flame below. As a result, when ignited, it will burn with an intense heat, rapidly incandescing any material placed therein. The products of combustion will also be very small, as the combustion will be so nearly perfect. As there is no draft of air except through the mixer F, and as this air, as has just been stated, is thoroughly heated in the base H of the burner, the cold draft will be reduced to a minimum, and there will be very slight alternation from hot to cold, tending to wear out the lamp. Again, the incandescent material can be adjusted by means of the screws R R to the hottest point of the flame.

A most important result is secured by burning the flame downward. No flickering will

be possible, as in the case of a flame burning upward and free to rise and fall. In my lamp the flame seeks to rise, but is kept down by the bottom of the burner, and therefore burns smoothly and evenly against the base of the casting. The incandescent gauze is uniformly heated, as the perforations in the base H of the burner are numerous and regularly distributed.

This lamp can be used, but not so satisfactorily, without the adjusting-screws R R.

The devices for hanging and supporting the lamp upon the burner or inlet-pipe, as well as the means for fastening the upper and lower halves of the lamp together, can be greatly varied. The mesh M can also be omitted; but the lamp then will be more easily fouled.

Having fully described my invention, I claim—

1. In an incandescent gas-lamp, the combination of the part B, having flange B′, with openings B^2 B^2, the part C, having flange C′, with openings C^2 C^2, the ring D, the clamps E E, the air-mixer F, the connecting-pipe F^3 to the burner, the hollow burner having neck H′ and base H, the latter perforated, the incandescing material K around the base of said burner and adjustable by set-screws, the ring S, resting upon the flange of said burner, and the arms S′ S′, connecting the rings D and S, all substantially as described and shown.

2. In an incandescent gas-lamp, the combination of the part B, having flange B′, with openings B^2 B^2, the part C, having flange C′, with openings C^2 C^2, the ring D, the clamps E E, the connecting-pipe F^3 to the burner, the hollow burner having neck H′ and base H, the latter perforated, the incandescing material K around the base of said burner and adjustable by set-screws, the ring S, resting upon the flange of said burner, and the arms S′ S′, connecting the rings D and S, all substantially as shown and described.

In testimony whereof I have hereunto set my hand.

JOSEPH N. PEW.

Witnesses:
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