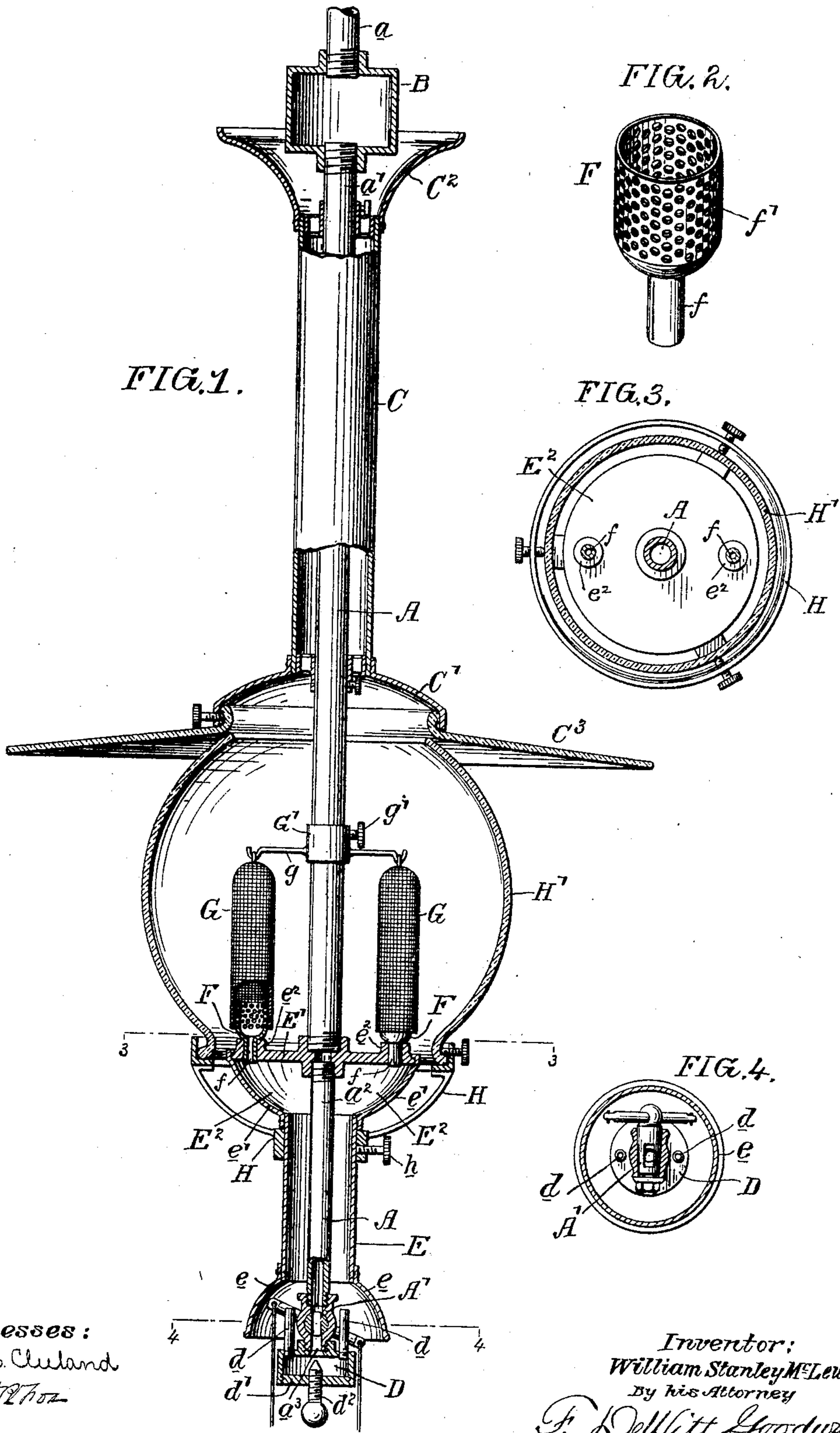


No. 805,661.

PATENTED NOV. 28, 1905.

W. S. McLEWEE.
REGENERATIVE GAS LAMP.
APPLICATION FILED NOV. 15, 1904.



Witnesses:
M. R. Cleland
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UNITED STATES PATENT OFFICE.

WILLIAM STANLEY McLEWEE, OF YARDLEY, PENNSYLVANIA, ASSIGNOR
TO THE McLEWEE GAS LAMP MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

REGENERATIVE GAS-LAMP.

No. 805,661.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed November 15, 1904. Serial No. 232,783.

To all whom it may concern:

Be it known that I, WILLIAM STANLEY McLEWEE, a citizen of the United States, residing at Yardley, in the county of Bucks and State of Pennsylvania, have invented certain new and useful Improvements in Regenerative Gas-Lamps, of which the following is a specification.

My invention relates to regenerative gas-lamps; and the object of my invention is to make such improvements in the construction of a lamp which will give greater illuminating power and brilliancy to the light than heretofore obtained.

The invention consists of the employment of means for preheating the gas and expanding it, also for mixing the same with air before it reaches the mantles, together with various novel features of construction and organization of parts, which will be hereinafter fully set forth and claimed.

Referring to the drawings, Figure 1 is a vertical sectional view of my improved lamp. Fig. 2 is a perspective view of the burner detached, drawn on a larger scale. Fig. 3 is a horizontal section, as on line 3 3, Fig. 1. Fig. 4 is a horizontal section, as on line 4 4, Fig. 1.

In the drawings, A is the supply-pipe, having interposed between its sections a and a' a preheating-chamber B. The supply-pipe is incased throughout the upper portion thereof with a draft-tube C, having at its lower end a bell-shaped disk C' to collect the heat and direct it into the draft-tube. At the top of the draft-tube is a flanged top C^2 , which surrounds the preheating-chamber B and directs the hot air to the same. The bell-shaped disk C' also serves as a shade-holder for the shade C^3 .

The lower section a^2 of the supply-pipe A is provided with a valve A' , which is connected to an expansion-chamber D, having outlet-tubes d . The lower plate d' of the expansion-chamber has a screw-threaded aperture formed therein to receive a regulating-screw d^2 , which is adapted to enter the supply-inlet a^3 and regulate the flow of gas.

The lower portion of the supply-pipe A is incased in a mixing-tube E, having a flaring lower portion e secured thereto and an enlarged upper portion e' secured to its upper end, which is connected to a top plate E' , and

thereby forms the mixing-chamber E^2 in which the air and preheated gas are thoroughly mixed.

The top plate E' of the mixing-chamber is provided with bosses e^2 , having apertures formed therein to receive the hollow shank f of the burner F.

The burner F (more clearly shown in Fig. 2) consists of the body portion formed of a cylindrical wall f' , which is perforated to allow the gas to pass through the same to the mantle G, so that the lower part of the mantle, which surrounds the body portion of the burner, will be illuminated, thus increasing the size of the illuminating-surface of the mantle and also preventing the mantle from turning black where it surrounds the burner.

The mantles G are supported by the arms g , extending from a collar G' on the supply-pipe A. The collar G' is held by a set-screw g' and may be raised or lowered to adjust the mantles, or the same may be raised from the burners, so that the burners may be cleaned without injuring the mantles.

A bracket H, for carrying the globe H' , is supported upon the mixing-tube E by a set-screw h . The bracket may be taken off the lamp by removing the flaring lower portion e from the mixing-tube.

The operation of my invention is as follows: The gas is supplied to the mantles through the expansion-chamber and the mixing-chamber. After the lamp has been burning a few minutes the hot air being carried up through the long draft-pipe causes the upper part of the lamp to become very hot, and the gas in the preheating-chamber B is thereby heated. The gas then enters the chamber D, where it expands and passes through the outlet-tubes d to the mixing-tube, where it is mixed with air and carried to the mixing-chamber E^2 , where the air and gas are thoroughly mixed before they reach the burners. The perforated burner permits the entire surface of the mantle to become illuminated. By this arrangement a light of great illuminating power is produced at a large saving in the consumption of gas.

Any number of burners and mantles may be used or the burners may be provided with any form of interstices in place of the perforations shown without departing from my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent—

5 The combination in a lamp, of a supply-pipe, a preheating-chamber, a draft-tube, an expansion-chamber, outlet-tubes in said expansion-chamber, a mixing-tube located above said expansion-chamber, a flaring lower portion on said mixing-tube, a mixing-chamber above said mixing-tube, and burners connected to

said mixing-chamber, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM STANLEY McLEWEE.

Witnesses:

E. D. PATTERSON,
M. R. CLEELAND.