

(No Model.)

S. HENRY.

GAS BURNER.

No. 385,669.

Patented July 3, 1888.

Fig. 1.

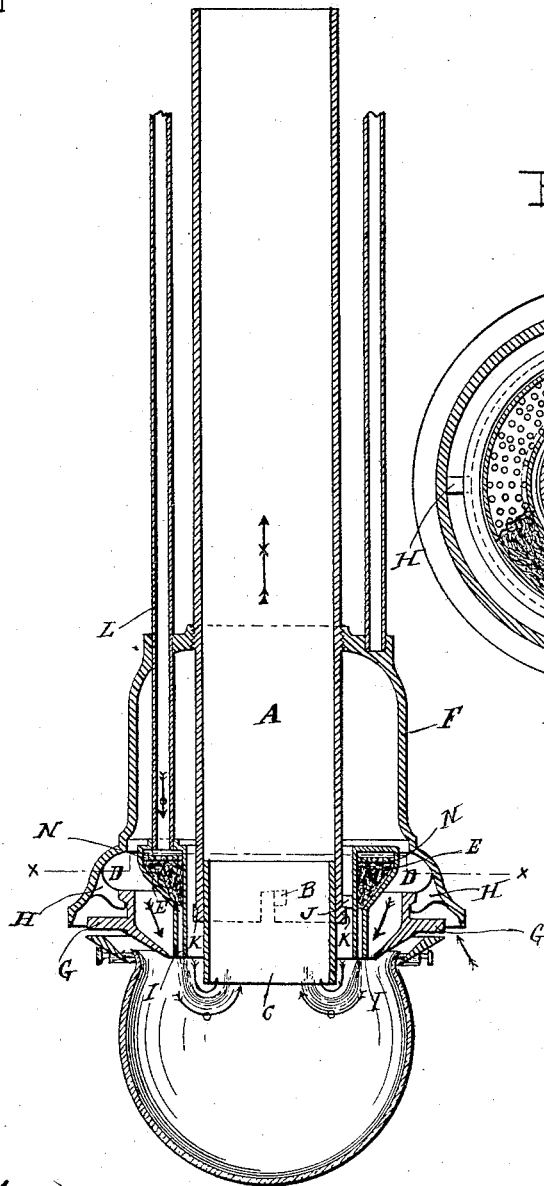
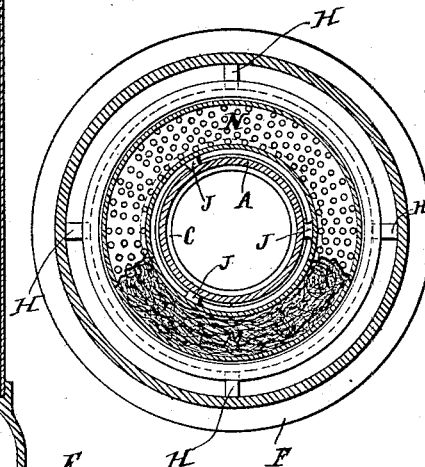


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SIDNEY HENRY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE UNITED STATES  
ARC GAS COMPANY, OF NEW JERSEY.

## GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 385,669, dated July 3, 1888.

Application filed December 8, 1887. Serial No. 257,346. (No model.)

### *To all whom it may concern:*

Be it known that I, SIDNEY HENRY, a subject of the Queen of Great Britain, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Gas-Burners, of which the following is a full, clear, and exact specification.

My invention relates to that class of burners wherein the gas is superheated previous to its consumption, and which devices are more generally known as "regenerative lamps."

The object of this invention is to provide a means by which the gas may be superheated to any desired extent without being subject to the disadvantages which naturally accrue to many of such lamps by reason of the carbon depositing itself in and around the gas chamber and burner and in the course of time clogging up the same so that the flame becomes uneven and irregular, and many regenerative lamps have for this reason only partially and quite imperfectly fulfilled the intentions of their originators.

In order that my invention may be more fully understood, I will now describe it with reference to the accompanying drawings, which serve to illustrate the same, and in which—

Figure 1 is a vertical sectional view of my improved lamp. Fig. 2 is a lateral section taken on the line X X, Fig. 1.

A is a cylinder, which forms a flue or central draft, into the lower end of which is secured, by means of a bayonet-joint, B, a small cylinder, C, preferably composed of terracotta or any other suitable material.

D and E are respectively air and gas chambers contained in an outer bell-shaped covering, F, the former cylinder being formed by an outwardly-swelled portion in said bell, and the ring or flange G, which is supported in said bell by means of the four arms H, as shown. The latter chamber, D, is composed of a ring-shaped box having the downwardly-projecting mouth I, and it is supported by the central draft-tube, A, by means of three lugs, J, which rest upon the flange K on the lower end of said tube, there being sufficient space between said tube and the chamber for a free passage of air. Extending down-

wardly through the bell F is the gas-supply pipe L, which is secured in the top of the chamber E, and admits gas to a supplemental chamber in the top of the said chamber E, which supplemental chamber is formed by a perforated plate, N. Stuffed in this chamber E, below the plate N, is a suitable quantity of asbestos, M, or other suitable non-combustible material, through which the gas on leaving the supplemental chamber is filtered, and thus deprived of the objectionable ingredients. It will be seen that by this arrangement two important objects are obtained. First, instead of hitherto unsatisfactory and easily-clogged perforated burners, I have produced an outlet or burner of a circular form without perforations and capable of being easily reached for cleaning by simply loosening the inside cylinder, C, by means of the bayonet-fastening before referred to. The principal object of the chamber E is to cause the gas to pass through the layer of asbestos or other suitable porous and non-combustible material, which will act as a filter for the gas, and will cause the gas to be superheated by reason of the slowness with which the latter permeates the said porous material. To the lower end of the bell may be secured by any suitable means a globe of any well-known or applicable shape.

I do not claim this particular construction of lamp, as it will be readily seen that this form of burner and the insertion of a known non-combustible porous-like material in a chamber specially provided for that purpose could be adapted to any of the lamps now before the public.

In the drawings an inverted flame is shown. This may be reversed by means well known and within the knowledge of every mechanic. The flame may also, by a reversal of the relative position of the flue A and its internal cylinder, C, be made to burn up from the outer circumference of the flue A and into the internal cylinder in a downward direction.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

In a regenerative gas-burner, the combination, with the central draft-tube, the gas-sup-

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ply pipe, and an annular chamber surrounding said tube and having connection with said gas supply pipe at its top, and having a burner around its bottom, of an annular filling of a  
5 porous fibrous non-combustible substance in said chamber, and a perforated plate resting upon said substance and forming a supplemental chamber for the distribution of the gas before passing through the filling, essentially as shown and described.

SIDNEY HENRY.

Witnesses:

E. A. MONROE,  
JAMES D. CARTER.

It is hereby certified that in Letters Patent No. 385,669, granted July 3, 1888, upon the application of Sidney Henry, of Chicago, Illinois, for an improvement in "Gas-Burners," the name of the assignee was erroneously written and printed "United States Arc Gas Company," whereas said name should have been written and printed *United States Arc Gas Lamp Company*; and that the proper correction has been made in the files and records pertaining to the case in the Patent Office, and should be read in the Letters Patent that the same may conform thereto.

Signed, countersigned, and sealed this 7th day of August, A. D. 1888.

[SEAL.]

D. L. HAWKINS,

*Assistant Secretary of the Interior.*

Countersigned:

BENTON J. HALL,

*Commissioner of Patents.*