

C. W. DE FOREST.
GAS BURNER.
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991,141.

Patented May 2, 1911.

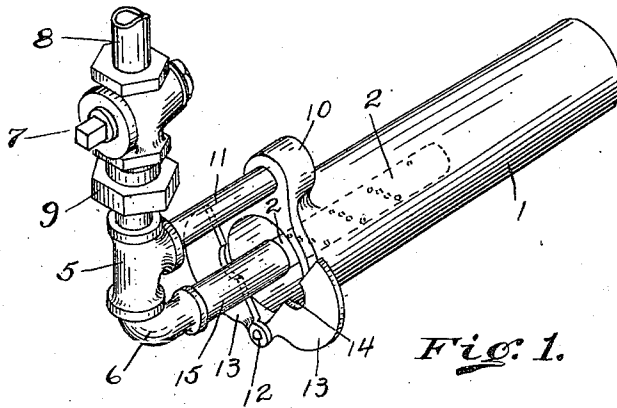


Fig. 1.

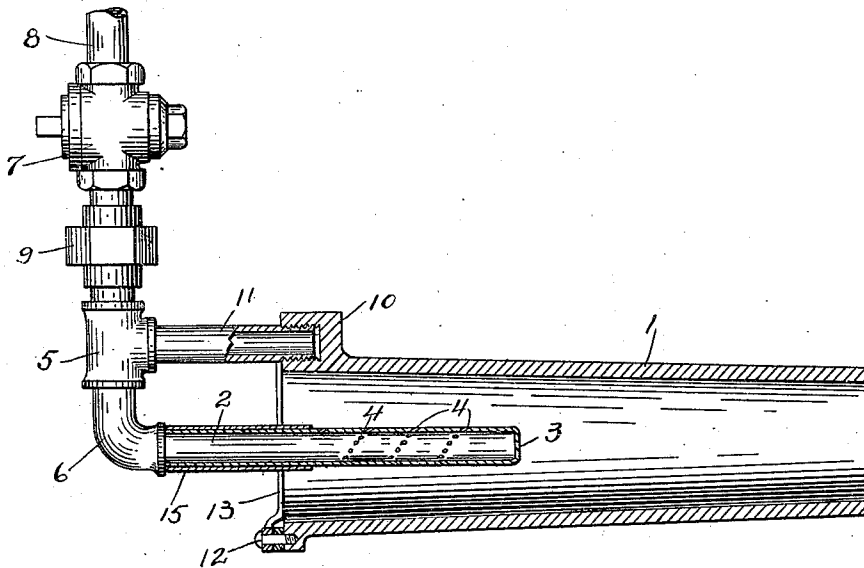


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

CORNELIUS W. DE FOREST, OF COVINGTON, KENTUCKY, ASSIGNOR OF ONE-HALF TO THE CREAGHEAD ENGINEERING COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

GAS-BURNER.

991,141.

Specification of Letters Patent.

Patented May 2, 1911.

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To all whom it may concern:

Be it known that I, CORNELIUS W. DE FOREST, a citizen of the United States, and a resident of the city of Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Gas-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to gas burners of the kind designed for the burning of gas as a fuel for boilers and the like, and the object of my invention is to provide a simple and effective burner convenient for installation, and in which the gas shall be thoroughly mixed with air, and the supply of air and gas readily and perfectly regulated and controlled, and it consists of that novel construction and arrangement to be hereinafter particularly pointed out and claimed.

In the drawings, Figure 1 is a perspective view of my improved burner. Fig. 2 is a central longitudinal section of the same.

1 is the outer casing or body of the burner, slightly tapering toward the ignition end of the burner, and open at each end. Introduced centrally into this casing is the gas supply tube 2, closed at its forward end 3 and provided with a series of apertures 4, 4, arranged spirally around the tube, and inclined forwardly so as to deliver the gas introduced within the tube in a series of spirally disposed and forwardly projecting jets. The gas supply tube extends outwardly through the rear of the casing 1, and is joined to the tee 5 by the elbow 6, and 7 is the gas cock in the gas delivery pipe 8 which is coupled to the tee 5 by the union 9, all of these parts being preferably of standard sizes.

The upper surface of the inner end of the casing 1 is provided with a boss 10, threaded to receive a straight piece of tubing 11, which is screw threaded into the tee 5. In this way the casing is supported and the gas supply tube and casing maintained in fixed relation to each other.

Pivotally secured by the pin 12 to the inner face of the burner casing are the shutters 13, 13, recessed at 14 to embrace the gas supply pipe, and by adjusting these shutters the supply of air is regulated and controlled.

15 is a sleeve slidingly mounted on the gas supply tube 2, and by sliding this sleeve in either direction the openings 4 are cut off or opened up to perfectly regulate the amount of gas delivered by the supply pipe.

The simplicity of the construction above described and its cheapness to manufacture are apparent.

The air enters the casing around the gas supply pipe and the jets of gas are projected spirally against the surface of the casing and in the direction of and across the entering current of air. Thus a very perfect mixture of gas and air is obtained and delivered for ignition at the tapered end of the burner, the forward projection of the gas assisting also in the maintenance of the draft. Inasmuch as during the use of the burner, a strong current of cold air is entering on all sides of the gas supply tube, the burner at the inlet end remains cool, so that the adjusting sleeve for the gas supply can be adjusted along the supply pipe to perfectly regulate the number of gas inlets and thus the supply of gas.

What I claim as new, and of my invention and desire to secure by Letters Patent, is:—

In a gas burner, a burner casing open at both ends, and a gas supply tube secured centrally in said casing and extending lengthwise thereof and forming an annular mixing chamber, said supply tube being closed at its inner end and provided with a series of circumferentially and spirally disposed apertures to project the gas across the incoming current of air to obtain a thorough mixture of gas and air.

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Attest:

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