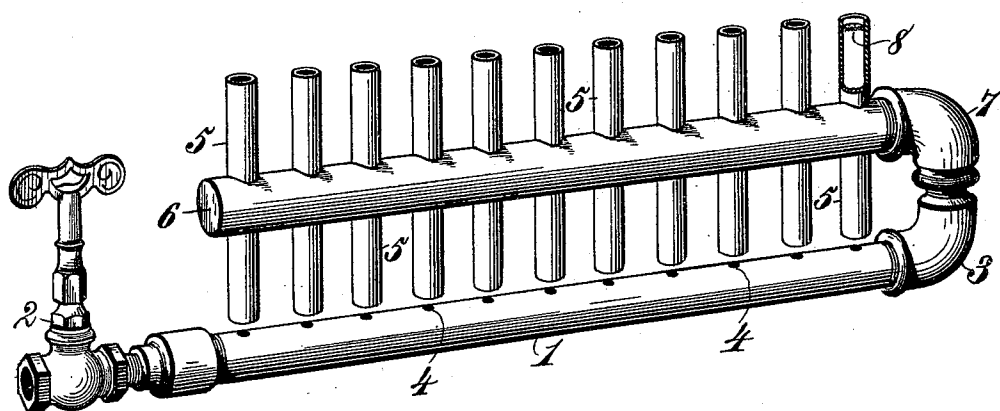


(No Model.)

T. A. LITTLE.
NATURAL GAS BURNER.

No. 478,117.

Patented July 5, 1892.



Witnesses,
Robert Emmett,
J. A. Rutheford,

Inventor,
Thomas A. Little.
By *James L. Norris,*
Atty.

UNITED STATES PATENT OFFICE.

THOMAS A. LITTLE, OF WHEELING, WEST VIRGINIA.

NATURAL-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 478,117, dated July 5, 1892.

Application filed September 17, 1891. Serial No. 406,001. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. LITTLE, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented new and useful Improvements in Natural-Gas Burners, of which the following is a specification.

This invention has for its object to provide a novel, simple, and economical natural-gas burner for stoves, furnaces, and grates wherein a gang of vertical chimney flues or tubes is located above and in alignment with a series of gas-delivery orifices in a gas-conducting pipe, so that the chimney flues or tubes fulfill all the conditions required of gas-and-air mixers and burner-tips.

To accomplish this object my invention consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawing, in which the figure is a perspective view of a gas-burner constructed in accordance with my invention, one of the chimney-tubes being partly in section to illustrate the foraminous shield in its upper end portion.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawing, wherein—

The numeral 1 indicates a horizontal gas-conducting pipe, having at one extremity a cock or valve 2 for controlling the flow of natural or other gas into the pipe. The pipe is provided at its opposite extremity with an elbow 3, which is closed against the flow of gas, and the pipe is provided along its length with a row of separated gas-delivery orifices 4, so that the gas flowing into the tube is compelled to discharge at the orifices. A gang of vertically-arranged chimney-tubes 5 is located above and in alignment with the gas-delivery orifices 4, the lower extremities of the tubes being arranged at a slight distance from the gas-conducting pipe in such manner that the gas issuing from the orifices will flow into the tubes and at the same time atmospheric air can enter the lower ends of the tubes for admixture with the gas, to support combustion.

The gang of chimney-tubes are separated from each other, and centrally between their

extremities they are joined to a horizontal tube or other suitable connecting-web 6, having at one extremity an elbow 7, which is connected with the elbow 3 of the gas-conducting pipe, whereby the horizontal tube or web 6 is supported from one end of the gas-conducting pipe, and the chimney-tubes are suspended in proper position above the gas-delivery orifices.

The arrangement of the vertical tubes in relation to the gas-delivery orifices of the gas-conducting pipe renders the tube susceptible of fulfilling all the conditions required of gas and air mixers, while the upper extremities of the tubes constitute burner-tips where the gas is ignited.

I provide the vertical chimney-tubes with foraminous shields 8, located at their interior and in proximity to their upper ends so that it is impossible for the gas to ignite inside the tubes at a point below the shields.

The construction described and shown is simple, efficient, and economical, and provides a very desirable device for burning natural gas for heating purposes.

The burner may be used in stoves, furnaces, or in grates, or wherever it is desirable to employ a natural-gas burner.

I am aware that a gas-burner has been composed of a chamber provided with openings, a frame or rack the cross-pieces of which are provided with perforations to correspond in location to the openings in the chamber and into which are adjustably secured the burner-tubes extending above the same, and a gas-conducting pipe having jet-orifices arranged directly below the burner-tubes. Such construction, therefore, I do not claim as my invention.

Having thus described my invention, what I claim is—

1. A natural-gas burner consisting of the horizontal tube 6, having immovable chimney-tubes 5 projecting from its upper and lower sides, the elbow 7, attached to one extremity of the horizontal tube, the horizontal gas-conducting pipe 1, having jet-orifices 4 arranged directly under the chimney-tubes, and the elbow 3, connecting one end of the gas-conducting pipe with the elbow secured to the horizontal tube, substantially as described.

2. A natural-gas burner consisting of the horizontal tube 6, having the chimney-tubes 5 extending from its upper and lower sides and containing the foraminous shields 8 at their
5 upper ends, the elbow 7, secured to one extremity of the horizontal tube, the gas-conducting pipe 1, having jet-orifices 4 arranged directly under the chimney-tubes, and the elbow 3, connecting one end of the gas-conduct-

ing pipe with the elbow secured to the horizontal tube, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

THOMAS A. LITTLE. [L. S.]

Witnesses:

FRANK G. CALDWELL,
W. C. CUSINLE.