J. H. JONES.

Gas Heater.

No. 47,426. Patented April 25, 1865.

Fig. 2.

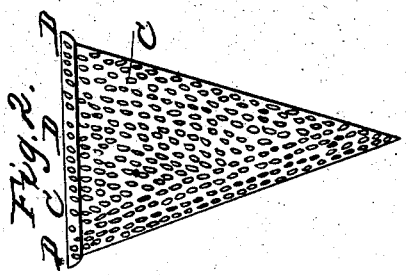


Fig. 3.

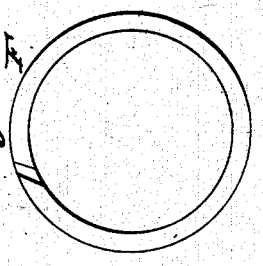
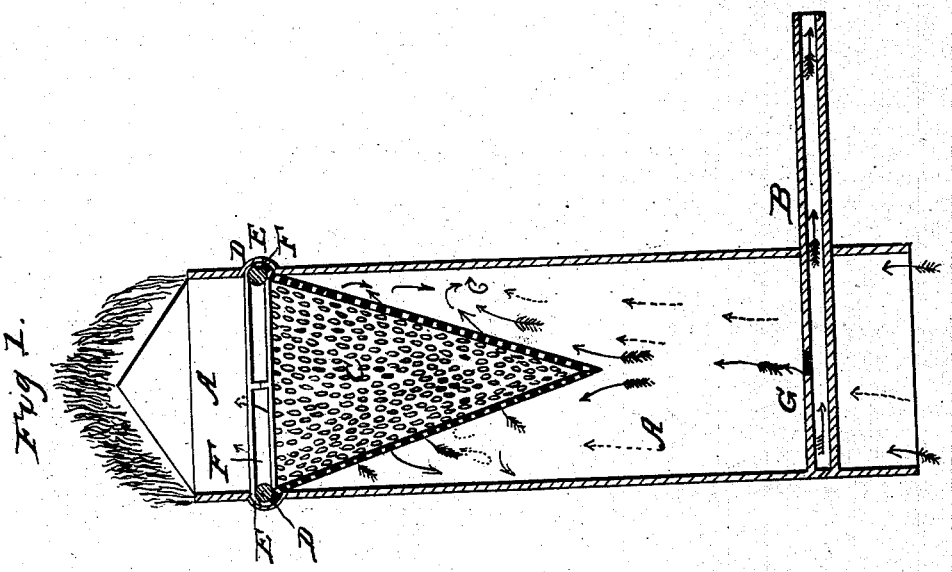


Fig. 1.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

J. H. JONES, OF NEW YORK, N. Y.

GAS-HEATER.

Specification forming part of Letters Patent No. **47,426**, dated April 25, 1865.

To all whom it may concern:

Be it known that I, J. H. JONES, of the city, county, and State of New York, have invented a new and Improved Gas-Burner for Heating Purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a vertical central section of my improved gas burner, the black arrows indicating the flow of gas and the red arrows the current of the air through the burner when in operation. Fig. 2 is a detached side view of the distributing-screen of the same. Fig. 3 is a detached plane view of the ring which is used to secure the said screen in the burner tube.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists, first, in the employment of an inverted conical or otherwise concave-shaped distributing-screen arranged above the gas-jet and surrounded by a simple tube in a manner that the flow of gas from the same jet as well as a surrounding flow of air are both conducted together to the screen, and there the flow of gas is deflected and divided by the point of the inverted conical screen and obliged to distribute over the whole surface of the screen, and thus pierced and mingled by and with the said flow of air before and while passing through the said screen to the flame, whereby a more perfect distribution and supply of oxygen to the gas is had and more perfect combustion and greater heat from the same quantity of gas obtained than with those heretofore known or used; second, it consists in the peculiar simple construction and arrangement of parts of the burner, whereby the manufacture of the same is economized and its liability of allowing to light directly at the gas jet and too close to it, which is often the case with those now in use, is entirely removed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, Fig. 1, represents the body of the burner, which is of tubular form, and near to its lower end it is provided with the gas-tube B, as shown in the drawings, or in any other equivalent manner, and in the upper portion it is provided with the distributing-screen C. The said screen C is preferred to be made of perforated metal of the shape of an inverted cone, but may also be made of wire-gauze and of any other considerably concave form. Its top edge is secured to the tube A by means of a flange, D, fitting to a recess, E, formed on the tube A, and by means of an elastic wire ring, F; but it may be also secured by means of riveting or other wire attachment of the said top edge or flange, D, to the body or tube A. The gas-tube B is provided with an opening, G, in a vertical central line with the point of the inverted cone, so that the gas flowing from said opening G will be equally divided and deflected from the point of the cone. Thus, in order to supply the gas with the full and proper amount of oxygen to make complete combustion and to receive all the amount of heat from the same, it is necessary to furnish the gas with two parts and a half of oxygen to one part of gas, and to perform this effect the ordinary screen now in use is not sufficiently powerful enough.

From the foregoing it may be clearly seen that the gas deflected from the point of the screen C is obliged to distribute over the whole surface of the screen, and to divide and mingle with the air to a great extent, and a large amount of oxygen will be supplied before reaching the point of combustion; and it will be perceived that by means of the large distance from the gas-jet G to the top end of the tube A in proportion to the area of the tube A, and with regard to the relative large and concave distributing-surface of the screen C, the flame of the burner when in operation is prevented from setting fire to the gas close at the opening, G, and thereby to destroy its use, which is often the case with the burners now in use. Also, by having one simple tube, A, within which the screen is secured, the provision of air-tight joints for securing the screen and other expensive work in making the same is entirely removed, and thereby the manufacture of this burner greatly economized.

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

The combination and arrangement of the concave or inverted conical-shaped screen C and tube A, in connection with a gas jet or opening, G, for the purpose herein set forth.

J. H. JONES.

Witnesses:

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