

(No Model.)

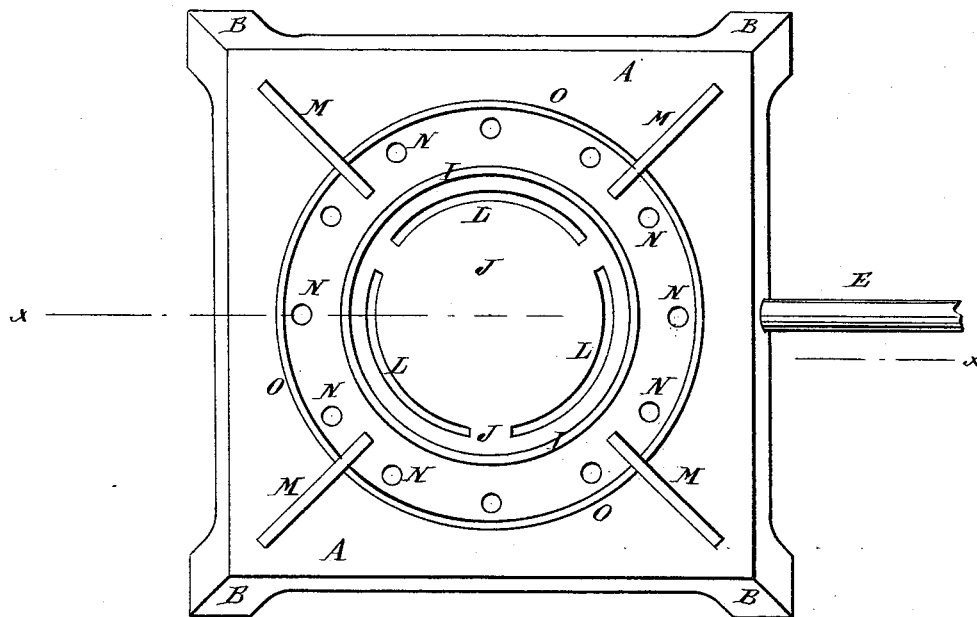
J. KEELING.

GAS STOVE.

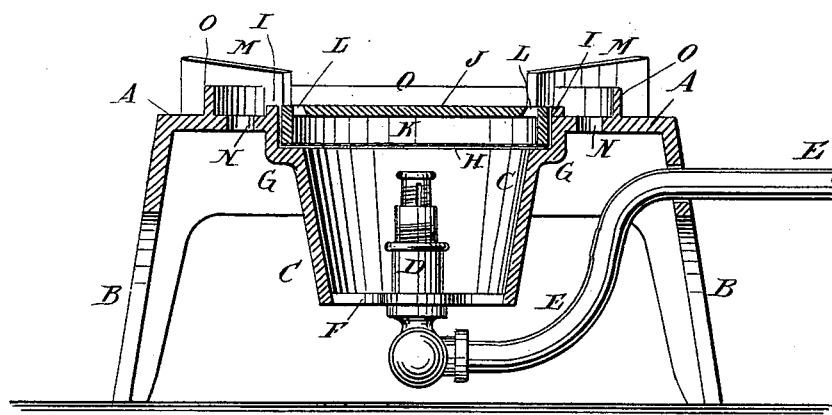
No. 386,473.

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*Fig. 1.*



*Fig. 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN KEELING, OF BROOKLYN, NEW YORK.

## GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 336,473, dated July 24, 1888.

Application filed June 10, 1884. Renewed January 7, 1887. Serial No. 223,718. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KEELING, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Gas-Stoves, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of my improvement. Fig. 2 is a sectional side elevation of the same, taken through the line *x x*, Fig. 1.

The object of this invention is to promote efficiency in the use of gas-stoves and economy in consumption of gas in such stoves.

The invention consists in a gas-stove constructed with the mouth of the mixing-chamber in the burner-plate and the perforated mixing-plate covered by a plate provided with a circle of curved slots near its outer edge.

The burner-plate is made with one or more circles or squares of perforations surrounded by flanges and surrounding the mouth of the mixing-chamber, whereby jets of air will be projected into the circle of burning gas, as will be hereinafter fully described.

A represents the burner-plate, which is made with legs B of such a length as to raise the said plate to a convenient height.

In the center of the burner-plate A is formed a circular opening, in which is formed a downwardly-projecting mixing-chamber, C, which tapers downward, and is thus in the form of an inverted frustum of a hollow cone.

D is the gas-burner, which is attached to the end of a gas-pipe, E, and passes through and is attached to the center of a cross-bar, F, extending across the open lower end of the mixing-chamber C, and formed upon or attached to the lower edge of the wall of the said chamber. The gas-pipe E passes through a hole in the side flange of the burner-plate A, and is supported by the said flange.

In the wall of the mixing-chamber C, a little below the burner-plate A, is formed a shoulder, G, upon which rests a plate, H, of perforated sheet metal or wire-gauze to minutely divide the stream of gas escaping from the burner D, and thus cause it to be thoroughly mixed with the air passing up through the said chamber.

Upon the burner-plate A, at the mouth of the mixing-chamber C, is formed an annular flange, I, within which is placed a circular cover, J. Upon the edge of the cover J is formed a downwardly-projecting annular flange, K, the lower edge of which rests upon the perforated plate H above the shoulder G of the mixing-chamber C.

In the cover J, near its edge, are formed three or more slots, L, which are curved in the arcs of circles, and are arranged in line with each other, as shown in Fig. 1. The mixed air and gas escape from the mixing-chamber C through the slots L, and are burned as they issue from the said slots, forming an annular flame.

Upon the burner-plate A are formed four (more or less) radial flanges, M, the top edges of which are slightly inclined upward, as shown in Fig. 2, and upon which rests the vessel to be heated.

In the burner-plate A, and outside the flange I, are formed one or more circles or squares of perforations, N, through which jets of air rise into the circle of flame as it is deflected outward by the bottom of the vessel to be heated. This series of perforations becomes the burner proper when the stove is at work. Each jet of air forms a distinct jet of flame, and thus intensifies the heat and insures the combustion of all the inflammable parts of the gas, so that the stove will not give off any offensive odors, and no soot will be deposited upon the bottom of the vessel being heated. Around each circle or square of perforations N is formed a flange, O, of corresponding shape, to prevent air from sweeping over the surface of the burner-plate and interfering with the proper combustion of the gas.

With my improvement the perforated plate H cannot become heated and cause the gas "to light back" below the said plate.

With this improvement, also, the perforated plate will be protected from the oxidizing effect of the air upon it when heated, by which the perforated plates in ordinary gas-stoves are very soon destroyed.

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

1. In a gas-stove, the burner-plate A, having a series of perforations, N, surrounding the mouth of the mixing-chamber, flanges O, sur-

rounding the series of perforations, whereby jets of air will be drawn into the burning gas and the perforations N become the burner proper when the stove is at work, the mixing-chamber C, and the cover J, having a series of slots, all as shown and described.

2. In a gas-stove, the burner-plate A, provided with a mixing-chamber open at both ends and formed with the interior shoulder, G, near its upper end, in combination with the wire-gauze H, resting on the shoulder G, and the cover J, having a series of curved slots, L, and a depending flange, K, supported by the shoulder G, and a gas-burner entering the lower end of the mixing-chamber, whereby the air and gas passing up through the chamber C and gauze H will be thoroughly mixed in the space between the gauze and the under side of plate J before issuing through the openings L, substantially as set forth.

3. In a gas-stove, the burner-plate A, provided with a circular depending mixing-chamber, C, open at both ends and provided with a circular shoulder, G, around its upper end, the raised flange O, the series of openings N in the plate A, between the flange and mouth of the chamber C, the cover-plate J, having a

depending circular flange, K, resting on shoulder G, the wire-gauze H, resting on shoulder G below flange K, and a burner, D, held in the lower end of chamber C, as described, whereby the gas and air will be thoroughly mixed between the cover-plate and wire-gauze before ignition, and jets of air will mix through openings N with the flame to cause the complete combustion of the gas.

4. A gas-stove consisting, essentially, in a burner-plate, A, provided with circular flanges O I, the latter being in a lower plane than the former, a series of openings, N, between said flanges and independent of the chamber C, radial flanges M, a circular opening, in which is formed the downward-projecting mixing-chamber C, having a shoulder, G, around its upper portion, the cover-plate J, provided with a depending flange, K, and a circular series of slots, L, the top of the plate J being flush with the top of flange I, the wire gauze H, resting on shoulder G below flange K, and the gas-burner, substantially as set forth.

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Witnesses:

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