(No Model.)

S. M. KEMP.

GAS BURNER.

No. 513,790. Patented Jan. 30, 1894.

Fig. 1.

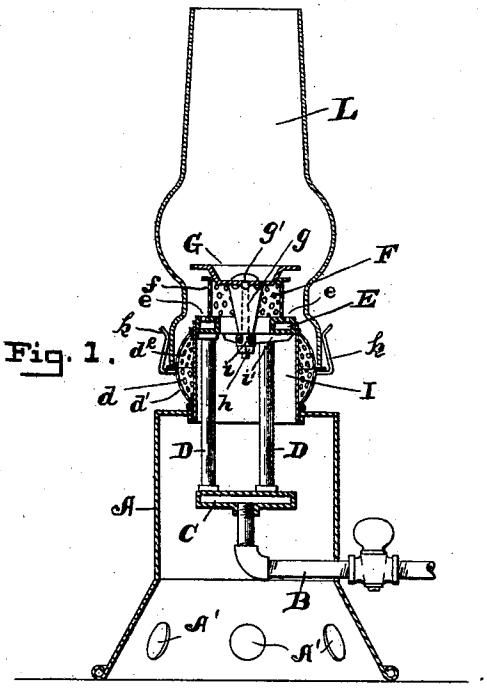


Fig. 2.

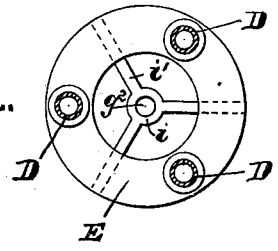
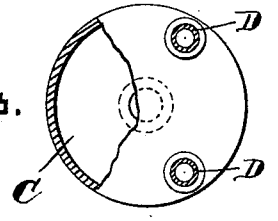


Fig. 3.



WITNESSES:

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SOLOMON M. KEMP, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO WILLIAM T. HENDERSON, OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 513,790, dated January 30, 1894.

Application filed January 31, 1893. Serial No. 460,265. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON M. KEMP, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to an improvement in gas-burners, and relates especially to that class of burners, wherein the object sought to be accomplished, is the generation of heat by the combustion of gas.

With this object in view, the invention consists of a novel construction of the feeding and distributing devices, which I shall presently point out.

In the accompanying drawings, Figure 1 is a vertical section of the burner showing my induction and distributing devices; Fig. 2 an inverted view of the annular chamber, E; Fig. 3 a top view of the distributing chamber, C.

Referring to the accompanying drawings, the letter, A, represents the casing, which contains and supports the burner.

The letter, B, represents the feed-pipe through which the gas is led to the distributing chamber, C, from which pipes, D, preferably three in number lead the gas to the annular chamber, E, having jet apertures, *e*, therein. The gas is ignited at this point.

The letter, F, designates a cylinder having perforations, *f*, therein and mounted on the annular chamber, E.

The letter, G, represents a flame-spreader mounted on the cylinder. The annular chamber, the cylinder and the flame-spreader, are drawn closely together by a bolt, *g'*, passing through the metal piece, *g*, in form like the inverted frustum of a cone. One end of the bolt is secured to the spreader, G. The other is screw threaded and passes through the hole, g^2, in the hub, *i*, to which the supporting arms, *i'*, preferably formed integral with annular chamber, E, are attached. A nut *h*, engaging the screw-threaded end of the bolt, *g'*, serves to draw the parts close together. The cone-shaped piece, *g*, serves to relieve the thin perforated cylinder, F, when the nut, *h*, is screwed up. The imperforate cylindrical band, I, surrounds the distributing pipes, D, and extends from the top of the casing, A, to the annular chamber, E. A bulged collar, *d*, surrounds the band, I, and has two series of perforations, *d'*, and d^2, intermediate of which is secured the spring-fingers, *k*, for holding the chimney in position.

My burner is of the "Argand" type, having an inner draft from the holes, A', in the casing, A, through the imperforate band, I, and out through the perforations, *f*, in the cylinder, F; and an outer draft from the perforations, *d'*, in the collar *d*, below the bottom edge of the chimney, L, and out through the perforations, d^2, inside the chimney but outside the line of flame issuing from the jet-apertures, *e*. The double draft supplies oxygen freely to the flame and on both sides thereof, thus effecting a more perfect combustion of the carbon in the gas, whereby more heat is generated and the burner is more nearly smokeless.

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

1. The combination in a gas burner, of a feed pipe leading to a distributing chamber; distributing pipes leading from said distributing chamber to an annular chamber having jet-apertures therein a central hub having radial arms secured at their extremities to the annular chamber; a perforated cylinder mounted on the annular chamber; a flame-spreader mounted on the cylinder; means connecting the flame-spreader with the hub to hold the flame-spreader and said hub in position on the annular chamber; a bulged, perforated collar surrounding the distributing pipes, and fingers secured to said collar for supporting the chimney; substantially as described.

2. The combination in a gas burner, of a feed-pipe, connecting with a distributing chamber; distributing pipes leading from said distributing chamber to an annular chamber having jet-apertures therein; a perforated cylinder mounted on said annular chamber; a flame-spreader mounted on the cylinder; a band surrrounding the distributing pipes, and a bulged collar surrounding said band and having an upper and a lower series of perforations, and spring fingers mounted on said

collar, between the two said series of perforations, for securing the chimney in position; substantially as described.

3. In a gas-burner the combination of a feed-pipe connecting with a distributing chamber; an annular chamber having jet-apertures therein; distributing pipes leading from the distributing chamber to said annular chamber; a central hub having radial arms secured at their extremities to the annular chamber; a perforate cylinder mounted on the said annular chamber; a flame-spreader mounted on the cylinder; an inverted frustum of a cone interposed between the central hub and the flame-spreader; a bolt, g', passed longitudinally through the inverted frustum of a cone and connecting the central hub with the flame-spreader; an imperforate cylindric band inclosing the distributing pipes, and a bulged collar inclosing the cylindric band and having an upper and a lower line of perforations, and spring-fingers secured to the bulged collar between the said two series of perforations, as and for the purpose described.

4. In a gas-burner, the combination of a feed-pipe leading to a gas-distributing-chamber; upright distributing-pipes leading from the distributing chamber to an annular chamber having jet-orifices therein, and supporting the same in an elevated position above the distributing-chamber; a central-hub having radial arms connecting with the annular-chamber; a perforated cylinder above the annular chamber and resting on the same, inside the line of jet-apertures; a flame-spreader resting on the top edge of the perforated cylinder; means connecting the flame spreader and the central-hub for securing the perforated cylinder and the flame-spreader in position upon the annular chamber; a casing, A, having draft-holes, A′, and supporting the burner; an imperforate cylindrical band extending around the distributing-pipes: a bulged-collar inclosing the cylindrical band and having an upper and a lower line of perforations; and spring fingers for retaining the chimney of the burner in position, and secured to the bulged-collar between the two lines of perforations, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

SOLOMON M. KEMP.

Witnesses:
F. PARKER DAVIS,
ALVAN MACAULEY.