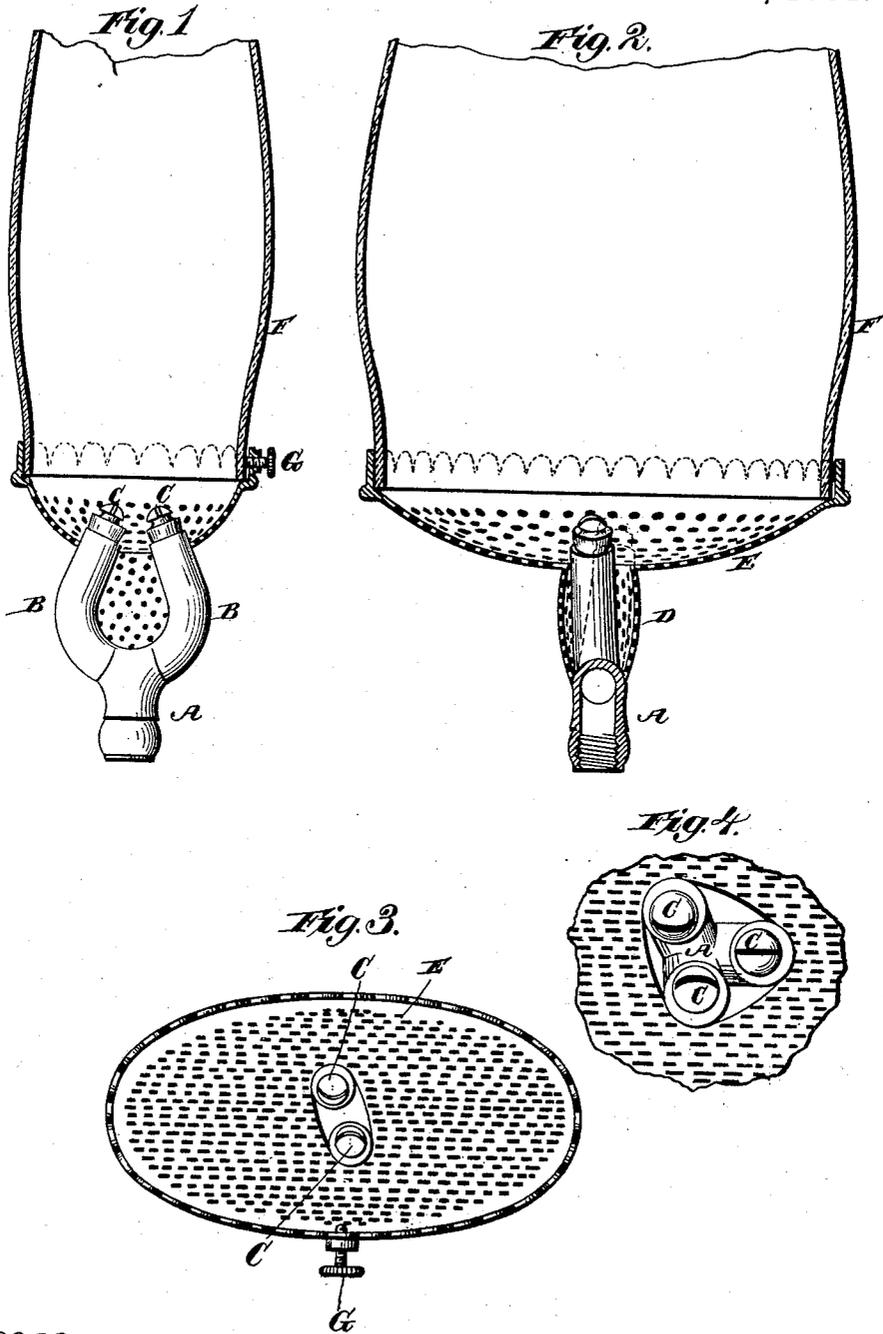


(No Model.)

E. B. REQUA.
GAS BURNER.

No. 266,890.

Patented Oct. 31, 1882.



Witnesses.

Robert Swatt

J. A. Rutherford

Inventor:

Elias B. Requa.

By *James L. Norris*

Atty.

UNITED STATES PATENT OFFICE.

ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 266,890, dated October 31, 1882.

Application filed September 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, a citizen of the United States, residing at Jersey City, Hudson County, New Jersey, have invented new and useful Improvements in Gas-Burners, of which the following is a specification.

The main objects of my invention are to induce strong upward currents of air around the tips of two or more gas-burners which branch from a common pipe, whereby the said currents shall be directed against the base portions of the flames, so as to afford a free supply of oxygen to the latter; also, to so arrange the burner-tips of a cluster of burners that the flames therefrom shall blend at their edges; and also to induce currents of air upwardly around the said tips, so as to feed the flames. To such end I surround two or more gas-burners branching from a common pipe with a perforated jacket, and connect the same at its upper open end with a concavo-convex perforated or imperforate plate adapted to support a lamp-chimney. The chamber or space within the jacket opens into the concavity of the plate in which the burner-tips are located, and the burners, which are curved inwardly or made converging toward a common central point, have the tips adapted to be turned so as to bring their slits into such relative position to each other that the flames shall blend at their edges, as hereinafter described, and illustrated in the drawings, in which—

Figure 1 represents a side elevation of the burners, with the jacket, base-plate, and chimney in vertical section. Fig. 2 is a section taken at right angles to Fig. 1, the base-plate being in this case made of an oval shape, as shown in Fig. 3, which is a top or plan view of said plate with two burners. Fig. 4 is a plan view of a portion of the base-plate with three burners.

In Figs. 1 and 2 the plate is provided with round or substantially-round perforations, while in the remaining figures it is provided with slits or slots.

In carrying out my invention I provide a section of gas-pipe, A, with two or more curved branch pipes or burners, B, which are made to converge at their upper ends. When two burners only are employed they will have a direct inclination toward each other, and when more

than two of such burners are used they will all have a direct inclination toward a common central point. The tips C of these burners are capable of being turned thereon, whereby the respective slits of the tips can be brought into such relative position to each other that the flames shall blend at their edges, and thus constitute practically one light. The point of blending being above the base of the flame, only the light-giving portions of the flames are united, so that the supply of air to the base at each flame will be ample and a rapid consumption of the oxygen effected. These burners are inclosed by a slitted or foraminous metal jacket, D, which is contracted at its lower end so as to fit closely around the pipe below the burners. This jacket connects at its upper end with a slitted or foraminous concavo-convex plate, E, and constitutes a support for the same. The slitted or foraminous plate constitutes a base plate or support for the chimney F, and is provided with an annular seat for the chimney to rest upon, and also with a peripheral flange for holding the chimney in place upon its seat. A thumb-screw, G, is also arranged to work through the flange of the base-plate, so as to further secure the chimney.

The tips of the burners are located within the concavity of plate E, while the upper ends of the body portions of the burners B can either extend somewhat into said concavity or be on a line with or be slightly below the lowest portion of the said plate.

The jacket and the concavo-convex plate are connected together in any suitable way, and a passage for the upwardly-induced currents of air formed between the two by reason of the jacket being open at its upper end and connected with the base-plate, which has a central opening coinciding with the opening at the top of the jacket. The air, which flows from all sides through the slits or perforations of the jacket, passes upwardly around the burners and their tips, and affords a free supply of oxygen to the flames at their base. It will be evident that this inflow of air into and up through the jacket to the flames above the latter will be induced both by the upward draft through the chimney, caused by the rarefaction of the air therein, and also by the rarefaction to a certain extent of the air which surrounds the burners within the jacket.

When the concavo-convex plate E is formed with slits or perforations an additional supply of air for feeding the flames will be induced through the said openings in the plate.

5 This plate can, however, be made imperforate, in which case the air-currents induced through the jacket will be stronger, and thereby afford a more rapid supply of oxygen to the base of the flames.

10 Figs. 3 and 4 illustrate the forms of openings in the plate E for the burners, one of which is adapted for two and the other for three of said burners.

15 In conclusion, I will remark that two one-foot burners, with the above construction and arrangement of parts, will give as much light as the ordinary six-foot gas-burner.

I am aware that gas-burners are well known which consist of two or more burners emanating from a pipe common to all; but such is not broadly claimed by me.

20 I am also aware that foraminous air-distributors and air-current regulators have long been used in various ways in connection with lamp-burners; but such does not constitute my invention.

What I claim is—

1. The combination, with a series of gas-burners emanating from a common source of gas-supply and arranged in the relative position described, of a perforated jacket surrounding the burners and having an open upper end through and above which the burner-tips project, and a base-plate projecting laterally from the upper edges of the open end of the jacket and provided with means for supporting a

chimney, substantially as and for the purpose described.

2. The combination, with a series of gas-burners emanating from a common source of gas-supply and arranged in the relative position described, of a perforated jacket surrounding the burners and having an open upper end through and above which the burner-tips project, and a concavo-convex perforated base-plate secured around the open upper end of the jacket and shielding the burner-tips, said base-plate having means to support a chimney, substantially as described.

3. The combination, with two or more gas-burners branching from a main pipe, of the perforated jacket surrounding said burners and fitted at its lower contracted end to the pipe below the burners, and the concavo-convex plate for supporting the lamp-chimney, provided with a central opening and secured to and supported by the jacket, which is open at its top, so as to allow the air which flows in through its sides to pass upwardly around the burners to the base of the flames, the tips of these burners being located within the concavity of the base-plate above the jacket, and being adapted to direct the flames toward each other, substantially in the manner and for the purpose described.

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

ELIAS B. REQUA.

Witnesses:

JAMES L. NORRIS,

JAMES A. RUTHERFORD.