(No Model.)

E. BLACKMAN.

GAS BURNER AND CHIMNEY.

No. 302,619. Patented July 29, 1884.

Fig. 1.

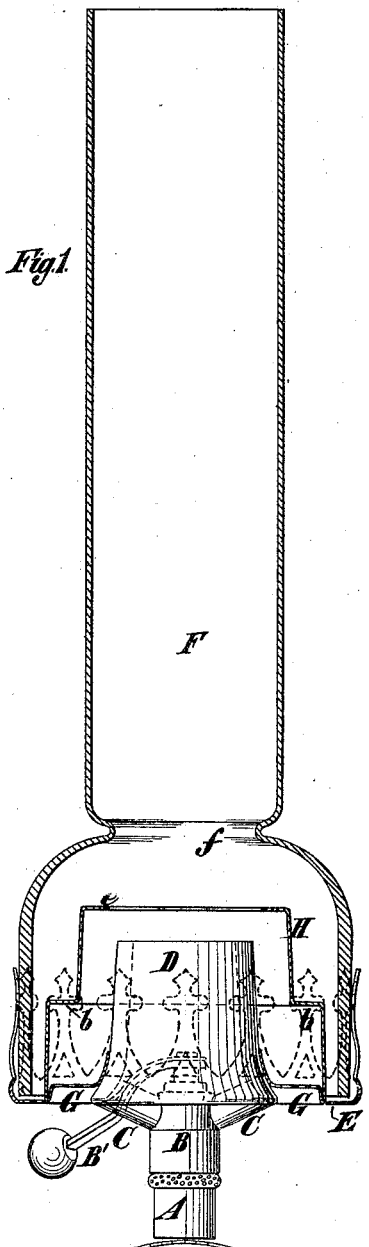
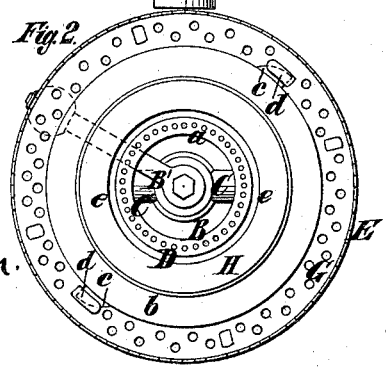


Fig. 2.



Witnesses:
James R. Bowers.
Alfred L. Brown.

Inventor:
E. Blackman,
by his atty,
Edwin H. Brown.

UNITED STATES PATENT OFFICE.

EBENEZER BLACKMAN, OF BROOKLYN, NEW YORK.

GAS-BURNER AND CHIMNEY.

SPECIFICATION forming part of Letters Patent No. 302,619, dated July 29, 1884.

Application filed February 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, EBENEZER BLACKMAN, of Brooklyn, in Kings county, and the State of New York, have invented a certain new and useful Improvement in Gas-Burners and their Chimneys, of which the following is a specification.

The improvement consists in the combination, with an annular burner, of an air-distributer, a circular deflector extending around the burner and having an indentation at a point considerably below the burner-tip, and having the upper edge turned abruptly inward at a point considerably higher than the burner-tip, so as to form a circular opening, and a chimney having an indentation about three-fourths of an inch above the burner-tip.

In the accompanying drawings, Figure 1 is a sectional elevation of a gas-burner and chimney embodying my improvement, and Fig. 2 is a top view of the burner.

Similar letters of reference designate corresponding parts in both figures.

A designates a collar, which is located at the bottom of the gas-burner, and provided with an internal screw-thread, whereby it may be secured to the nipple of a gas-fixture. Above the collar A a chamber, B, is located. Gas from the nipple of the gas-fixture enters this chamber, and passes thence along diverging tubes C to a burner-tip, D, which is of circular form and has an annular space for the gas. The gas escapes through small perforations *a* at the top. The chamber B is provided with a valve, which serves to regulate the escape of gas, and is provided with an arm, B′, whereby it may be turned.

E designates a gallery in which a chimney, F, is supported. As here shown, this gallery is provided at the outer edge with resilient arms, which embrace the chimney and hold it in place. This gallery may be supported from the burner-tip in any suitable manner. In this example of my invention it is formed with and supported by an air-distributer, G, consisting of a finely-perforated plate. This air-distributer has its inner edge turned upward and made to fit the exterior of the burner-tip snugly. When thus made, it may be held in place by friction only.

H designates a deflector fitting on the air-distributer G. It is shown as having a shoulder or indentation, *b*, opposite about the middle of the height of the burner-tip, and as having the upper edge, *c*, turned inward at a point considerably higher than the top of the burner-tip, so as to form a circular opening. This deflector may be secured in place in any suitable manner. I have shown it as provided with lugs *c*, which extend laterally from its base and engage with catches *d*, arranged upon the air-distributer. It will be observed that the air-distributer is perforated outside as well as inside of the deflector.

All of the above-described parts, excepting the chimney F, may be made of brass or other suitable metal. The chimney is of circular form, and has an indentation, *f*, at a point about three-fourths of an inch above the burner-tip. Above its indentation it is preferably smaller in diameter than at the base portion. The chimney may be made of glass, as usual. Gas escaping from the burner-tip produces an annular flame. Air entering the air-distributer is deflected upon the flame by the deflector H at a point above the burner-tip, and also by the indentation of the chimney at a point still higher. A very perfect combustion of gas, and hence a very brilliant flame, is obtained in this way. The shoulder *b* of the deflector H is advantageous, because it checks the ascension of air inside the deflector, and by causing it to impinge upon the burner-tip insures its being thoroughly heated before reaching the flame. The air admitted between the deflector H and the chimney F is also heated before reaching the flame. I have found that a chimney of at least about eight inches in length will be serviceable with a gas-burner like the one shown—or, in other words, a chimney extending about seven inches above the tip of the burner. I have found that the efficiency of the burner is increased and a better combustion obtained by forming the chimney with an indentation at a point about three-fourths of an inch above the burner-tip. The chimney extending about seven inches above the burner-tip, and the deflector extending toward the burner-tip below the indentation in the chimney, also conduce to this result.

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

The combination, with an annular burner,

of an air-distributer, a circular deflector extending around the burner and having an indentation at a point considerably below the burner-tip, and having the upper edge turned abruptly inward at a point considerably higher than the burner-tip, so as to form a circular opening, and a chimney having an indentation situated as described with reference to the burner-tip, substantially as specified.

EBENEZER BLACKMAN.

Witnesses:
T. J. KEANE,
ED L. MORAN.