No. 647,183. Patented Apr. 10, 1900.

F. C. GILFILLAN.

GAS BURNER.

(Application filed May 17, 1899.)

(No Model.)

Fig. 1.

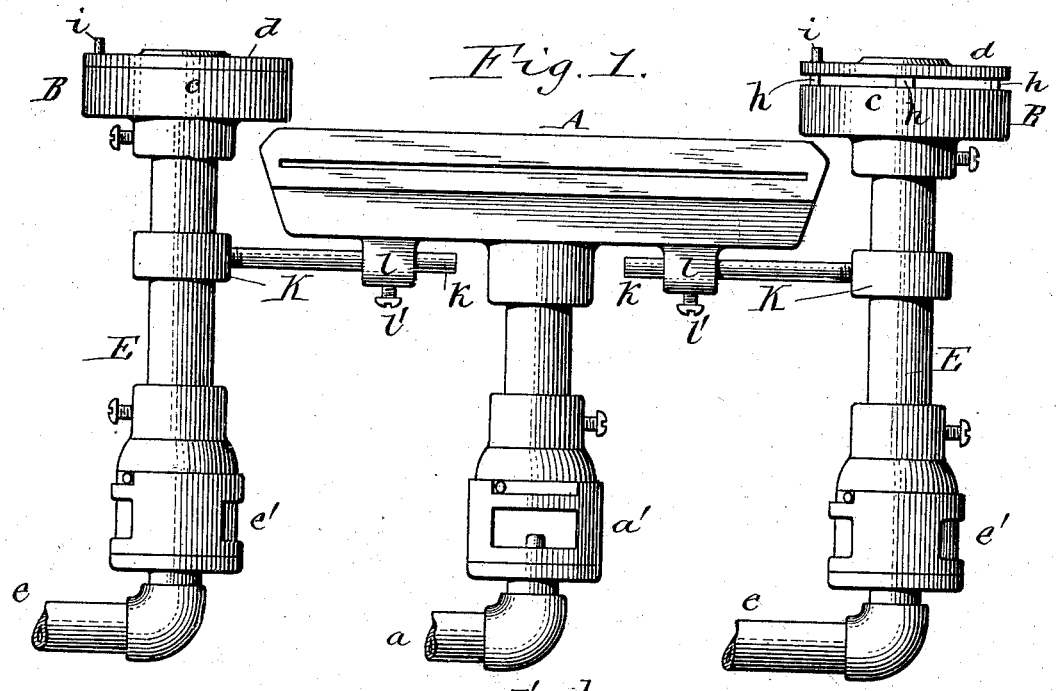


Fig. 2.

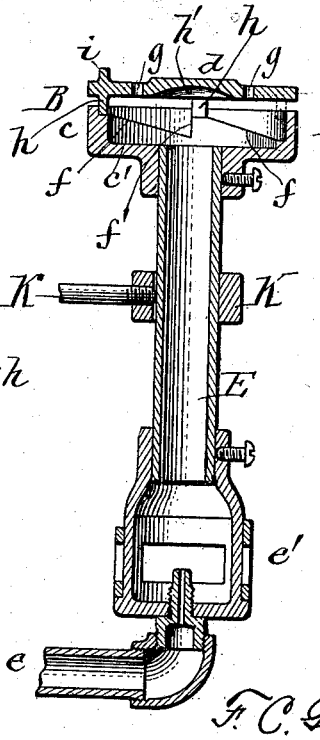


Fig. 3.

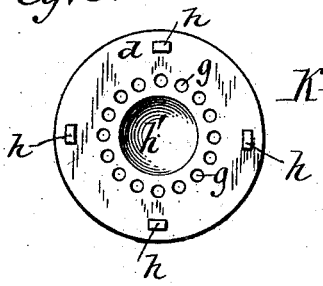
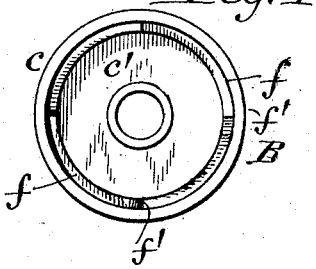


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERIC C. GILFILLAN, OF EBENEZER, NEW YORK.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 647,183, dated April 10, 1900.

Application filed May 17, 1899. Serial No. 717,118. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC C. GILFILLAN, a citizen of the United States, residing at Ebenezer, in the county of Erie and State of New York, have invented new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to a burner for gas-stoves, and has for its object to provide a burner for this purpose which is simple and inexpensive in construction and which can be quickly and easily adjusted so as to produce a narrow flame or a wide flame.

In the accompanying drawings, Figure 1 is an elevation showing two of my improved gas-burners arranged on opposite sides of a center burner. Fig. 2 is a vertical section of my improved burner. Fig. 3 is a bottom plan view of the cover of the burner. Fig. 4 is a top plan view of the burner with the cover removed.

Like letters of reference refer to like parts in the several figures.

A represents a main or center gas-burner of any usual or ordinary construction, whereby the water-front or the bake-oven of the stove is heated and which is provided with a gas-supply pipe *a* and an air-mixer *a'*.

B B represent two of my improved gas-burners, which are arranged on opposite sides of the main or center burner A, so as to heat the lids of the stove or a vessel placed over the lid-openings. Each of the burners B consists, essentially, of a cylindrical body or head *c*, having a bottom *c'* and an open top, and a circular cover or disk *d*, which is arranged on top of the body. The body of the burner is mounted on the upper end of a hollow fuel-supply pipe or standard E, which latter is connected at its lower end with a gas-supply pipe *e* and an air-mixer *e'*. The inner side of the body is provided with an annular series or row of inclines or sloping faces *f* and a corresponding number of abrupt faces *f'*, each of which is arranged between the bottom of one incline and the top of the adjacent incline. The cover is provided with an annular row of openings *g*, which is arranged outside or out of line with the bore of the fuel-supply pipe E. The under side of the cover is provided with a number of depending lugs or toes *h*, each of which engages with one of the inclines of the body. The cover is also provided with a concave depression or deflecting-face *h'*, which is arranged over the outlet of the fuel-supply pipe E. Upon turning the cover so that its depending lugs engage with the bottoms of the inclines the cover is lowered so that its edge rests upon the upper edge of the body, as represented in the burner B on the left side of the center burner, Fig. 1. In this position of the cover the gas escapes only through the openings *g* in the cover and produces a comparatively-small flame over the burner. Upon turning the cover so that its depending lugs ride along the inclines toward the top thereof the cover is lifted from the body and an annular space is formed between the edge of the body and the marginal portion of the cover, as represented in the burner B on the right side of the center burner, Fig. 1 and also Fig. 2. In this position of the cover the fuel issuing from the upper end of the supply-pipe strikes the concave face on the under side of the cover and is thereby deflected outwardly through the space between the cover and body and produces a large spreading flame around the burner. By arranging the openings *h* of the cover outside of the bore of the fuel-supply pipe the gas issuing from the latter does not pass out through these openings, but strikes the concave face *h'* of the cover. As the gas strikes the face *h'* it rebounds and is deflected sidewise past the cover-openings and out through the space between the cover and body. Practically all of the gas passes through this space, and only an inconsiderable amount of gas, if any, passes through the cover-openings, thereby producing a burner of great heating capacity when the cover is raised. By engaging the lugs of the cover with higher or lower portions of the inclines the width of the space between the edge of the cover and the edge of the body can be regulated so as to vary the size of the flame. The abrupt faces *f'* on the body are engaged by the depending lugs of the cover and arrest the turning movement of the cover in the direction for closing the space between the cover and body, the parts being so constructed that this movement of the cover is arrested when the cover rests on the body. For convenience in turning the cover the lat-

ter is provided on its upper side with a shifting pin or lug *i*. It will be seen that this burner is composed of but two parts and is capable of producing a narrow or a wide flame by a partial turn of the cover, thus simplifying the construction and cost of manufacturing the same and at the same time retaining all the desirable features of a more complicated gas-burner.

K represents a supporting-collar which surrounds each of the hollow standards between its burner and its air-mixer. *k* is a horizontal supporting-rod which is adjustably secured at its inner end in a lug *l* on the center burner by a set-screw *l'* and which has an external screw-thread at its outer end. The outer screw-threaded end of the supporting-rod engages with a screw-threaded opening in the supporting-collar and bears against the side of the hollow standard in the collar. By loosening the supporting-rod in the collar the standard can be raised or lowered for adjusting the burner in the stove, and upon tightening the rod against the standard the burner is held in position. By this means of supporting the burner the horizontal rod serves the double purpose of supporting the burner and also as a means of adjusting the same.

I claim as my invention—

1. In a gas-burner, the combination with a hollow body provided in its bottom with a fuel-supply opening, of a cover which is adjustable toward and from the body and which is provided with a concave deflecting-face arranged opposite the fuel-supply opening and with a number of openings which are arranged outside of said fuel-supply opening, substantially as set forth.

2. In a gas-burner, the combination with a hollow body provided with a gas-inlet and having an open top, of a cover arranged over the top of the body and provided with openings which extend upwardly through the cover, and adjusting means for moving the cover toward and from the body, whereby the cover may be engaged with the body and permit gas to pass only through the openings in the cover, or the cover may be separated from the body and form a space between the cover and body through which the gas passes laterally, substantially as set forth.

3. In a gas-burner, the combination with a hollow body connected with a gas-supply and provided with an annular series of inclines, of a cover arranged over the body and provided with openings and with lugs engaging with said inclines, whereby upon turning said cover so that its lugs engage with the bottom of the inclines the cover engages with the body and permits gas to pass only through the openings of the cover while upon turning the cover so that its lugs ride upon the inclines the cover is moved away from the body and forms a space between the cover and body through which gas passes laterally, substantially as set forth.

Witness my hand this 6th day of May, 1899.

FREDERIC C. GILFILLAN.

Witnesses:
THEO. L. POPP,
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