(No Model.)

A. E. DETWILER.

GAS BURNER.

No. 571,431. Patented Nov. 17, 1896.

Fig. 1.

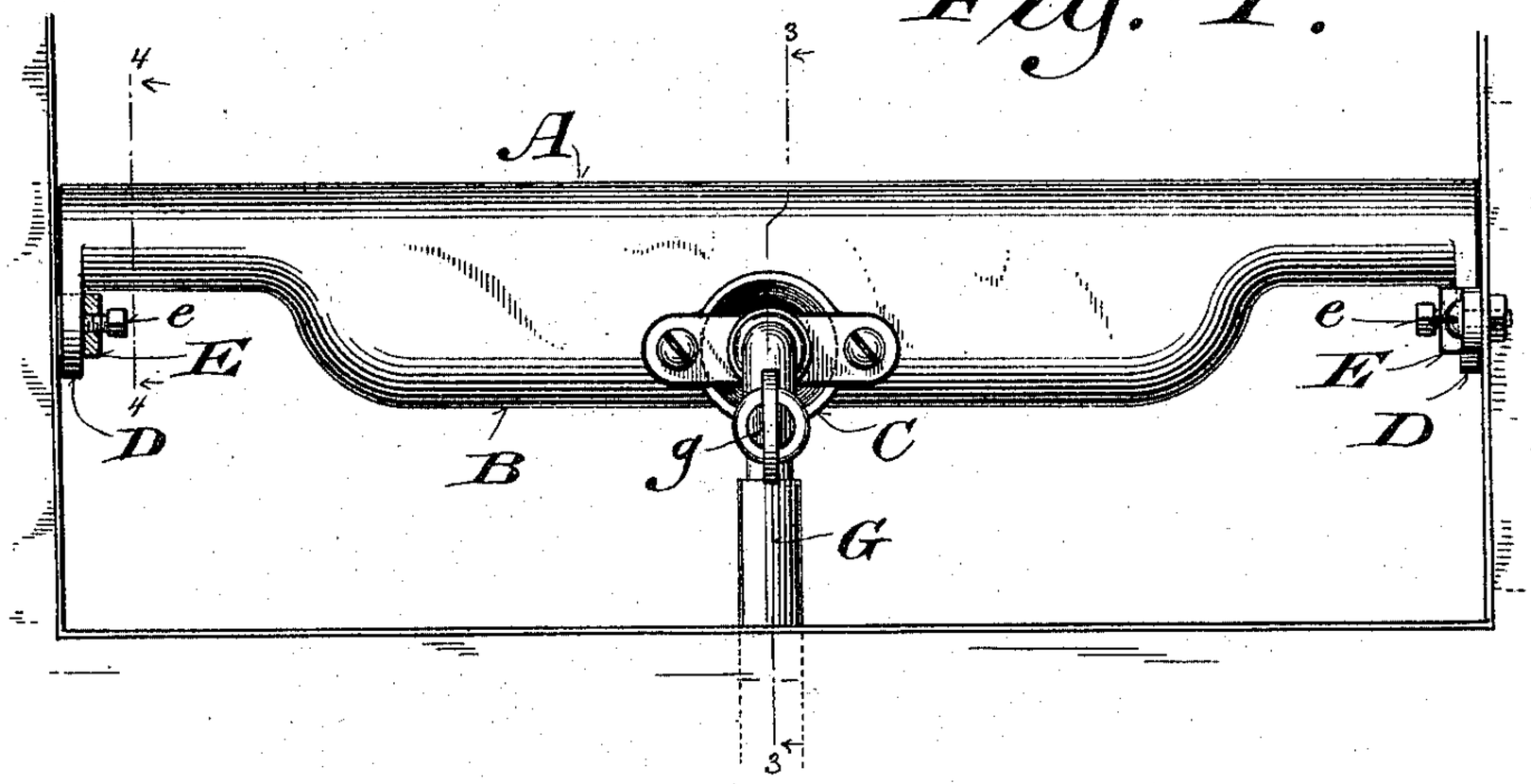


Fig. 2.

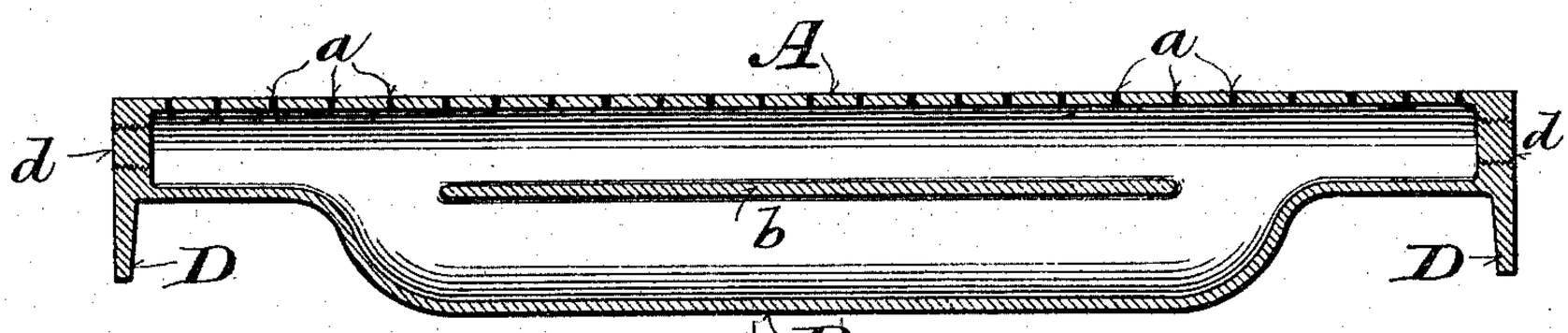
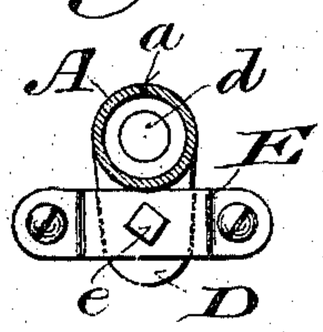


Fig. 3.

Fig. 4.



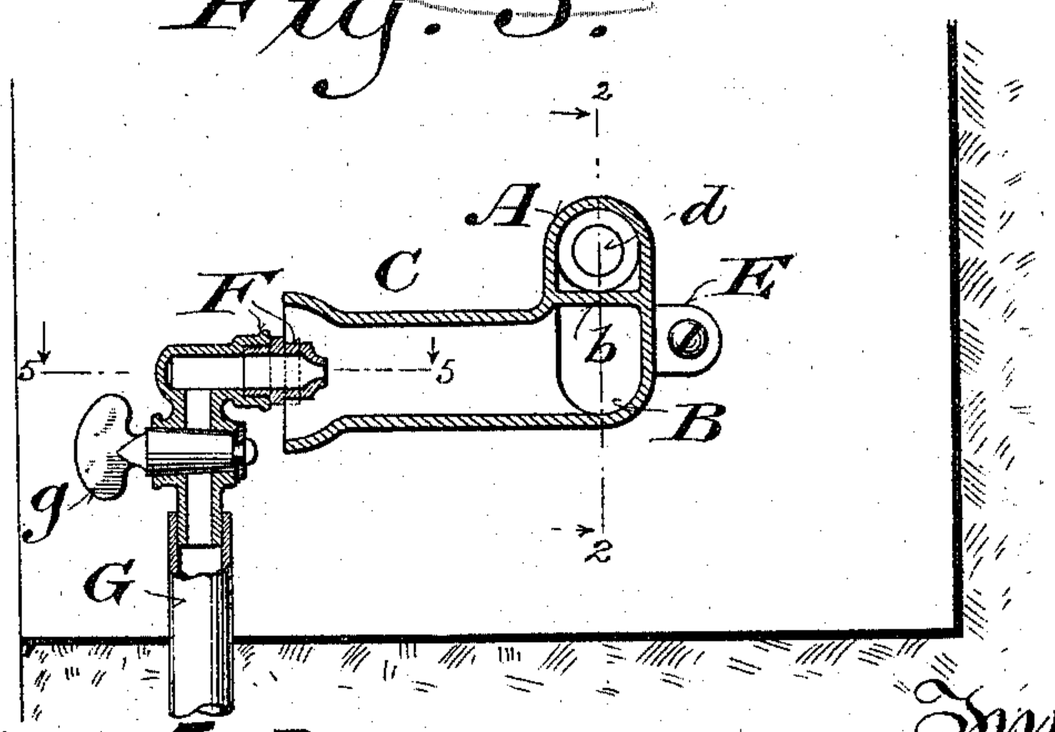
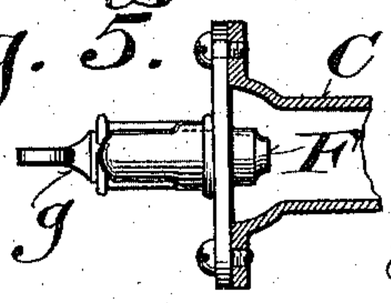


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALFRED E. DETWILER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE MILWAUKEE GAS STOVE COMPANY, OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 571,431, dated November 17, 1896.

Application filed November 13, 1893. Serial No. 490,742. (No model.)

To all whom it may concern:

Be it known that I, ALFRED E. DETWILER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The main objects of my invention are to thoroughly mingle the gas and air and distribute it equally throughout the entire length of tubular or oblong burners and to adapt burners of this class for fireplaces or similar uses.

It consists, essentially, of an oblong gas-burner formed with a longitudinal jet-aperture or series of apertures and with a longitudinal distributing-passage communicating therewith at different points in its length and having a gas-supply connection at an intermediate point therein, and of certain peculiarities of construction and arrangement hereinafter particularly described, and pointed out in the claim.

In the accompanying drawings, like letters designate the same parts in the several figures.

Figure 1 is a front elevation of my improved burner as applied to a fireplace. Fig. 2 is a vertical longitudinal section of the same on the line 2 2, Fig. 3. Fig. 3 is a vertical cross-section on the line 3 3, Fig. 1. Fig. 4 is a similar section on the line 4 4, Fig. 1; and Fig. 5 is a horizontal section on the line 5 5, Fig. 3.

A represents the main body of the burner, which is preferably made tubular in general form, and is formed lengthwise thereof in the upper side with a jet-aperture or series of jet-apertures *a a*. It is also cast on the under side with a longitudinal enlargement B, which incloses a passage or chamber communicating at its ends with the interior of the main portion A of the burner, but separated therefrom between the openings at its ends by a partition *b*.

The burner is formed or provided on the front side with a horizontal branch C, which may be designated the "mixing-chamber," and commuicates with the distributing chamber or passage midway between its ends. It is cast at its ends with depending ears D D, adapted to be held in keepers E E, bolted or riveted to the side plates of a fireplace, as shown in Fig. 1. These ears may be fastened in said keepers by means of set-screws *e e*, if desired. For convenience in casting the burner the ends are left open in order to support the core, but are afterward closed by plugs *d d*.

F is a gas tip or nozzle, which is secured to and projects into the outer open end of the mixing-chamber. It is connected with the gas-supply pipe G, which is provided with a controlling-cock *g*.

Air is supplied to the burner through the opening at the outer end of the mixing-chamber around the nozzle F, through the contracted aperture of which the gas enters. The gas and air thus entering chamber C mingle with each other therein and pass thence into the distributing-passage B, in which they are more thoroughly mixed and by which they are delivered to the main portion or upper chamber of the burner between its center and ends, and so distributed in opposite directions both toward the center of the chamber and toward opposite ends of the chamber. In this way the burner is supplied with gas or fuel equally throughout its length, and the several jets from end to end will burn with uniform intensity.

It is obvious that the openings between the main burner-chamber and the distributing-passage may be varied in number and arrangement according to circumstances and the size of burners employed.

The foregoing construction is of advantage in that the burner with its essential connections may be cast in one piece.

Various changes in minor details of construction may be made within the spirit of my invention.

I claim—

A gas-burner composed of a casting having an apertured top and formed at a point removed from both ends with a depending

pocket or enlargement extending longitudinally under a central partition dividing it from an upper chamber of the casting and communicating at both of its ends with said chambers at points inward from the ends of said chamber so that the air and gas passing from the enlargement into the upper chamber may diffuse itself in opposite directions both over the partition and away from it toward the ends of the chamber, and a gas-mixing chamber extending laterally from the depending pocket or enlargement, substantially as and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALFRED E. DETWILER.

Witnesses:

CHAS. E. SHADALL,

CHAS. L. GOSS.