

No. 754,561.

PATENTED MAR. 15, 1904.

A. E. HARRIS.
ATMOSPHERIC GAS BURNER.
APPLICATION FILED OCT. 26, 1903.

NO MODEL.

Fig. 2.

Fig. 1.

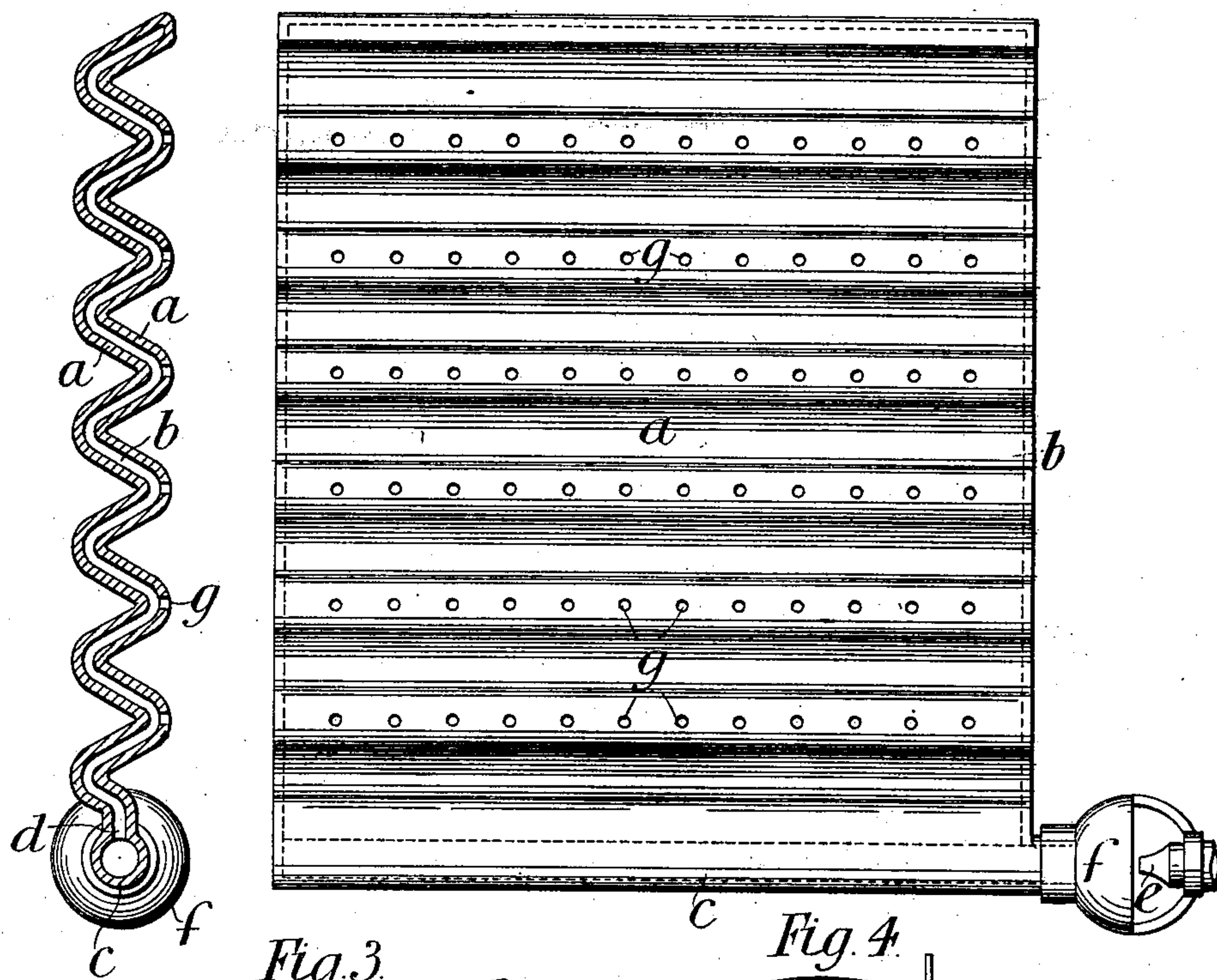
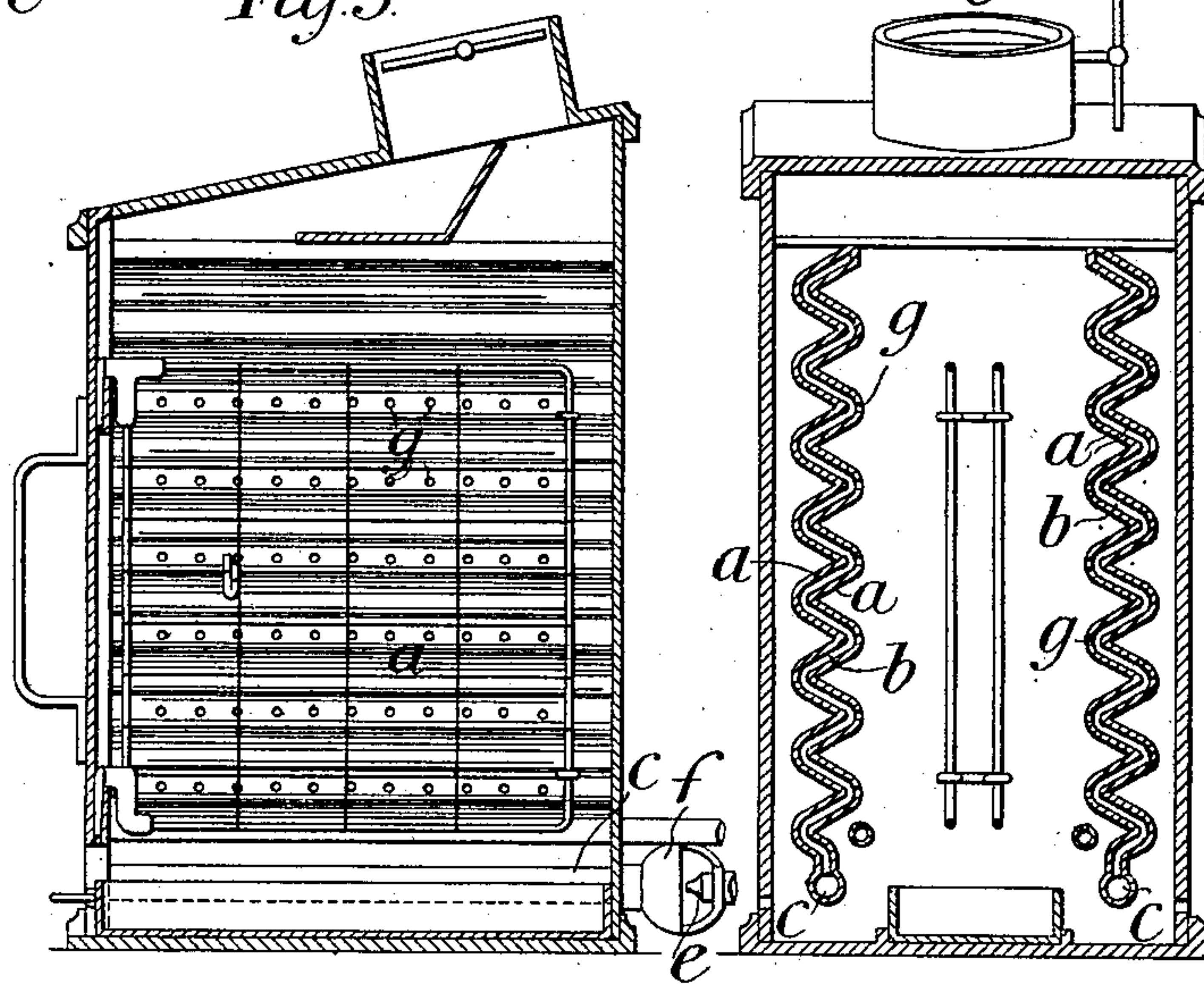


Fig. 3.

Fig. 4.



Witnesses

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ALFRED ELLIS HARRIS, OF LONDON, ENGLAND.

ATMOSPHERIC GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 754,561, dated March 15, 1904.

Application filed October 26, 1903, Serial No. 178,617. (No model.)

To all whom it may concern:

Be it known that I, ALFRED ELLIS HARRIS, a subject of the King of Great Britain, residing at 64 Finsbury Pavement, London, England, have invented new and useful Improvements in Atmospheric Gas-Burners, of which the following is a specification.

My invention relates to atmospheric gas-burners, and has for its object to obtain a maximum amount of heat with a minimum consumption of gas.

In the accompanying drawings, Figure 1 is an elevation of my improved burner, and Fig. 2 is a vertical section of the same. Figs. 3 and 4 are sections at right angles to each other, illustrating the application of my invention to a cooking apparatus of the kind forming the subject of my former application, Serial No. 713,635.

According to my invention my improved burner comprises two walls *aa*, of corrugated metal, either cast or wrought, or of clay or other suitable material, and fitted one into the other and united at the upper end and at the two sides, so as to form between them a narrow sinuous chamber *b*, which as the combustible mixture passes through the said chamber, as hereinafter described, will tend to cause every particle thereof to come into intimate contact with the walls of the chamber. At the lower end of the said walls is a pipe *c*, having formed in it a slot *d* or a series of openings communicating with the chamber *b*, and on one end of the said pipe is a gas-nozzle *e* and a chamber *f*, in which the gas mixes with air and passes into the pipe *c*, as in the well-known Bunsen burner. In either wall *a* or in both walls a series of holes *g g* is formed, the said holes, as shown, being on the crown of the corrugations, through which holes the mixture of air and gas which enters the chamber *b* will escape and at which it will burn in a number of small jets. It will be understood that after the gas has been lighted for a short time the walls of the burner will become intensely heated, so that the combustible mixture which passes between the said walls will be thoroughly superheated before it issues from the holes *g g*,

whereby a very complete combustion of the gas is insured.

It is to be understood that the corrugated surfaces may be plain or curved or otherwise suitably shaped, according to the purpose for which the burner is to be used.

In Figs. 3 and 4 the burner is represented as flat and is shown as applied to the cooking apparatus forming the subject of my former Letters Patent No. 713,635, the plates in this case being perforated on the adjacent surfaces only.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An atmospheric gas-burner having two corrugated walls arranged in close proximity to and parallel with each other, throughout their extent, and forming a continuous, narrow, sinuous chamber between said walls, for the passage of the combustible mixture, exterior convex portions of said plates being provided with rows of burner-apertures, whereby the combustible mixture is forced to pass through the burner in a thin, uniform sheet, and will be highly heated by contact with the parallel walls of said burner, substantially as described.

2. An atmospheric burner having two horizontally-corrugated walls arranged in close proximity to and parallel with each other, throughout their extent, and forming a continuous, narrow, sinuous passage between said walls, the space between said walls being closed adjacent to the edges only of the said walls, and exterior convex portions of said plates being provided with burner-apertures, arranged in horizontal rows, whereby the combustible mixture is caused to pass without obstruction, and in a thin uniform sheet between the parallel walls and will be highly heated by contact therewith, substantially as described.

ALFRED ELLIS HARRIS.

Witnesses:

JOHN E. BOUSFIELD,
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