

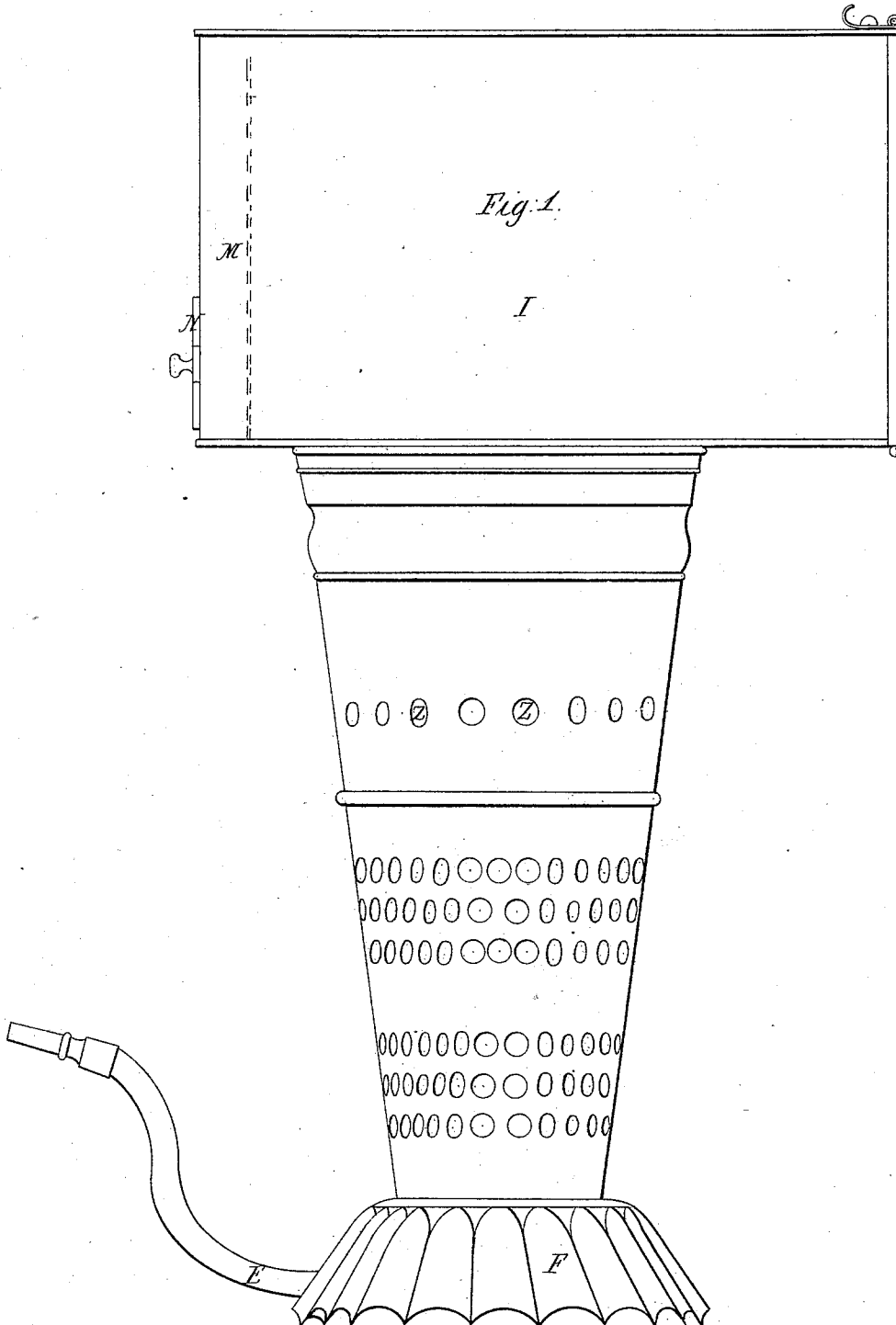
W. F. Shaw.

Sheet 1-2, Sheets.

Gas Stove.

N^o 16,031.

Patented Nov. 4, 1856.



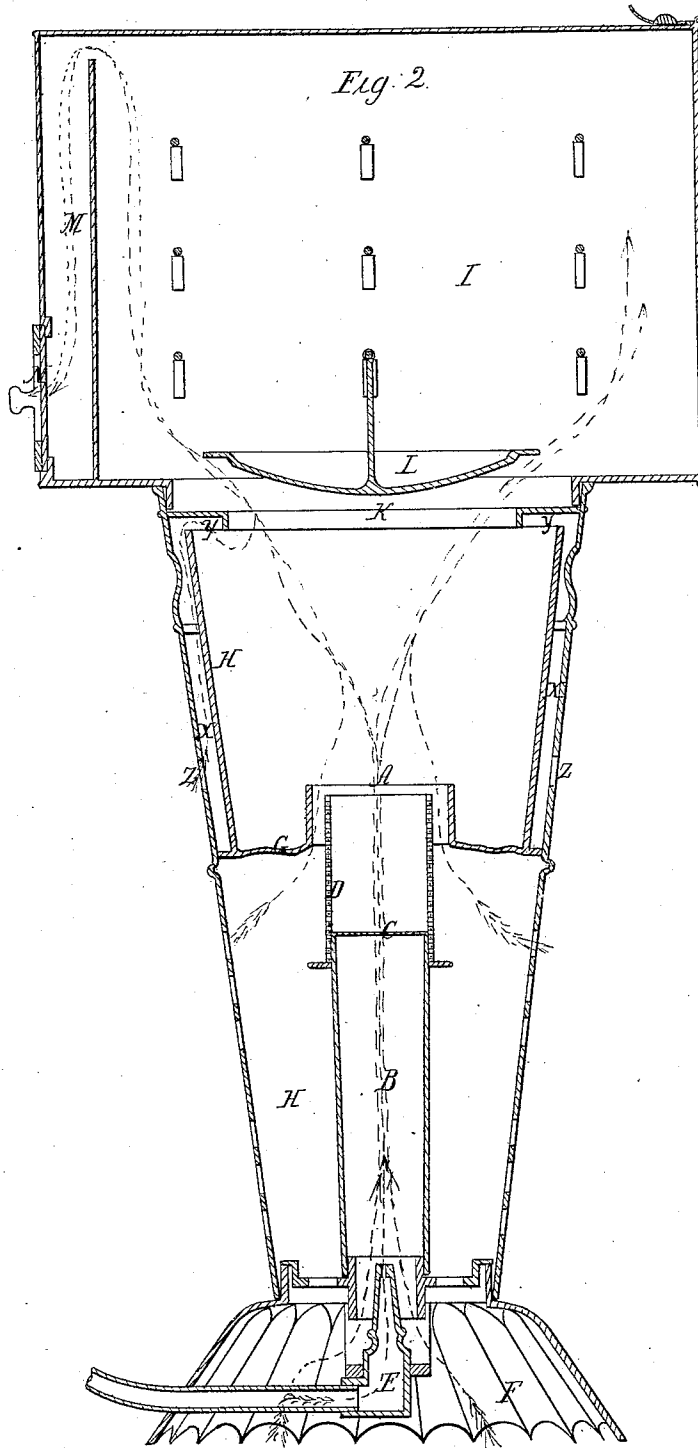
W. F. Shaw.

Sheet 2-2 Sheets.

Gas Store.

N^o 16,031.

Patented Nov. 4, 1856.



UNITED STATES PATENT OFFICE.

WILLIAM F. SHAW, OF BOSTON, MASSACHUSETTS.

APPARATUS FOR HEATING OR COOKING BY GAS.

Specification forming part of Letters Patent No. 16,031, dated November 4, 1856; Reissued May 29, 1860, No. 968.

To all whom it may concern:

Be it known that I, WILLIAM F. SHAW, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Apparatus for Heating or Cooking by Gas and Air When Commingled and Burned; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, exhibits a side elevation; and Fig. 2, a vertical and central section of said apparatus.

In these drawings, A, denotes an air and gas burner, it being constructed of a tube or conductor B, and a perforated or wire gauze top or disseminator, C. Surrounding the upper part of the burner is a wire gauze or perforated tube, D, as represented and described in the specification and drawings of a patent granted to me on February 26th A. D. 1856.

E, is a tube for leading gas into the tube B, air being suffered to flow freely into the lower part of the tube B and with the gas to ascend toward and pass through the disseminator, the base part, F, of the apparatus being so constructed as to allow air from without it to pass freely into it. Surrounding the perforated tube, D, of the air and gas burner is what I term the external air concentrator, G, which is made like a tunnel inverted, or somewhat in the shape of a cone or annular disk, so as to cause the air, that surrounds the burner or its perforated or wire gauze chimney, D, to be gathered and made to pass or be concentrated upon the external surface of the tube, D, when such air is caused to rise upward by being rarefied by the heat radiated from the burner or its tube D. The object of said tube D, when used in connection with a burner of this description is described in my said patent.

The purpose of my improvement or addition of the concentrator or guide G is to facilitate or improve the action of the perforated tube, D, by bringing into contact with it a greater amount of air than would naturally strike against it, provided the concentrator were removed from it and the air allowed to flow freely up into the surrounding chamber, H, H, and to pass with the gaseous products into the oven, I, arranged above the burner and the case of the chamber, H,

as shown in the drawings. By increasing the amount of air passing against the external surface of the tube, D, I increase the amount that will be drawn into the tube by the action of the heat; and furthermore I protect the tube more or less from being injured by the action of the flame or heat within it. A further object of the concentrator is to cause the air flowing through the chamber, H, to be brought as near to the burner or its tube, D, as possible, in order that such air on its entrance into the oven may be heated and facilitate the operation of baking in the oven.

The chamber H, H, is shown as surrounded by a flue space, X, X, which communicates with the upper part of said chamber by one or more passages or openings Y, Y, and has one or more orifices, Z, Z, made through its bottom. This addition enables the part of the apparatus that is under the oven to be used for boiling a kettle or for various other heating purposes after the oven has been removed from it. When the oven is used on the chamber H, H, air will pass up through the flue space X, X, and become heated by contact with the external surface of said chamber; and flow into said chamber, and thence into the oven and operate to good advantage. Thus the heat which would be radiated from the sides of the chamber, H, H, and into the external atmosphere is taken up by the inflowing current of air and returned into the said chamber.

At the top of the chamber, H, and directly over the burner, A, is a large opening, K, by which the heated volatile products of combustion of the air and gas are caused to flow into the oven. I arrange in the oven and over the air and gas burner and the opening K, as shown in Fig. 2, a distributing plate or disk L, and the oven I form with a descending back flue, M, for the escape of the volatile products, they passing out of the same through openings, N, N, formed through the lower part of said flue.

Having thus described my apparatus, what I claim therein is as follows:

1. I claim combining with the wire gauze or perforated tube, D, and the air and gas burner, A, an air guide or concentrator, G, applied thereto substantially in manner and for the purpose hereinafter specified.

2. I also claim so combining with the

oven, a back flue extending along one or more of its sides, that the spent heated volatile products within the oven may flow into such flue and thence down around the side or sides of the oven, and out of the bottom or lower part of said flue, as described.

In testimony whereof I have hereunto set

my signature this twenty third day of June A. D. 1856.

WM. F. SHAW.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.

[FIRST PRINTED 1912.]