

(No Model.)

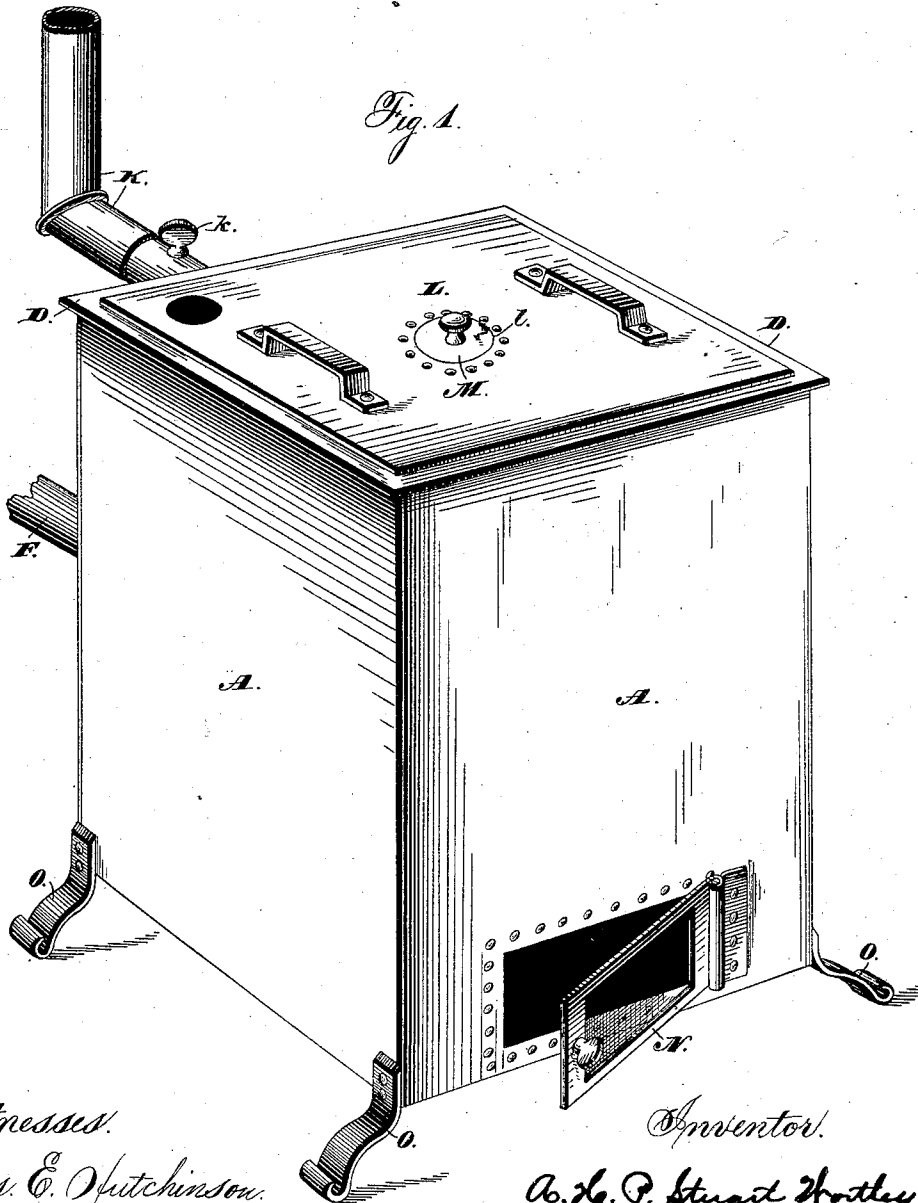
3 Sheets—Sheet 1.

A. H. P. S. WORTLEY.

GAS STOVE.

No. 286,160.

Patented Oct. 2, 1883.



Witnesses:
Jas. E. Hutchinson.
Henry C. Hazard.

Inventor:
A. H. P. Stuart Wortley
by Geo. S. Prindle, his Atty

(No Model.)

3 Sheets—Sheet 2.

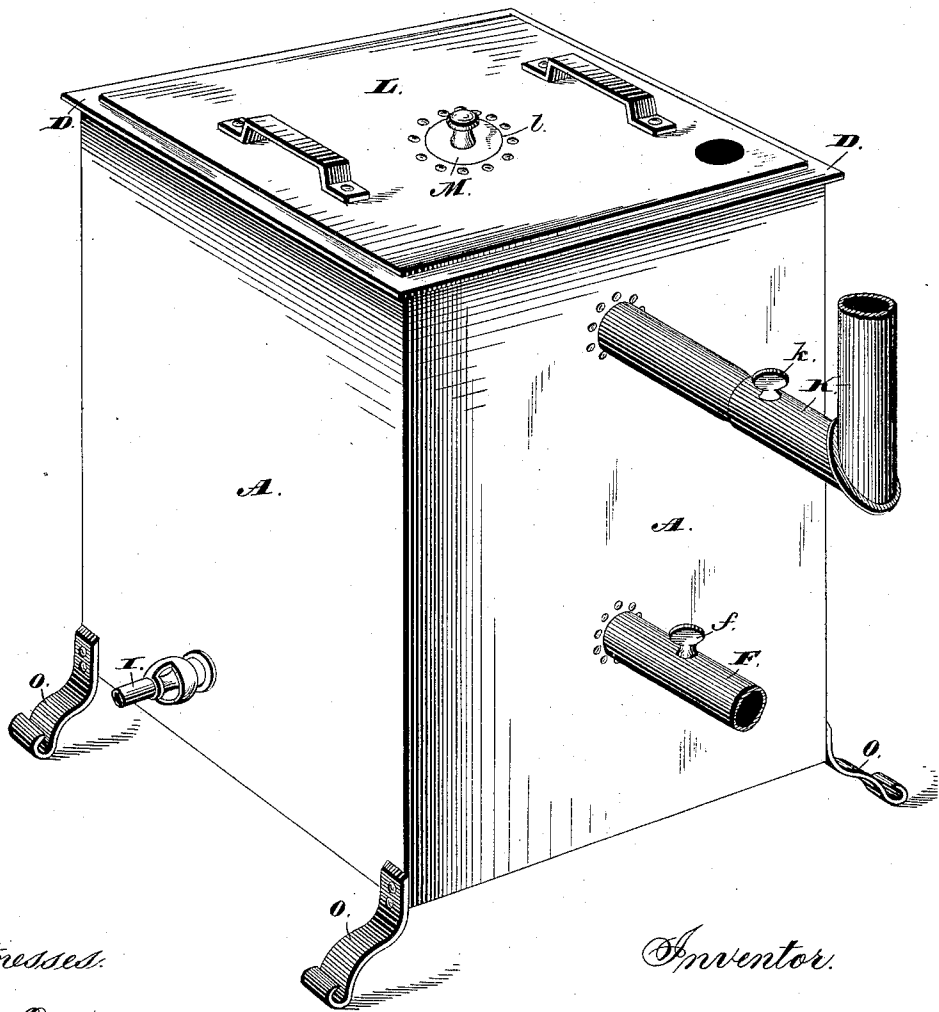
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Fig. 2.



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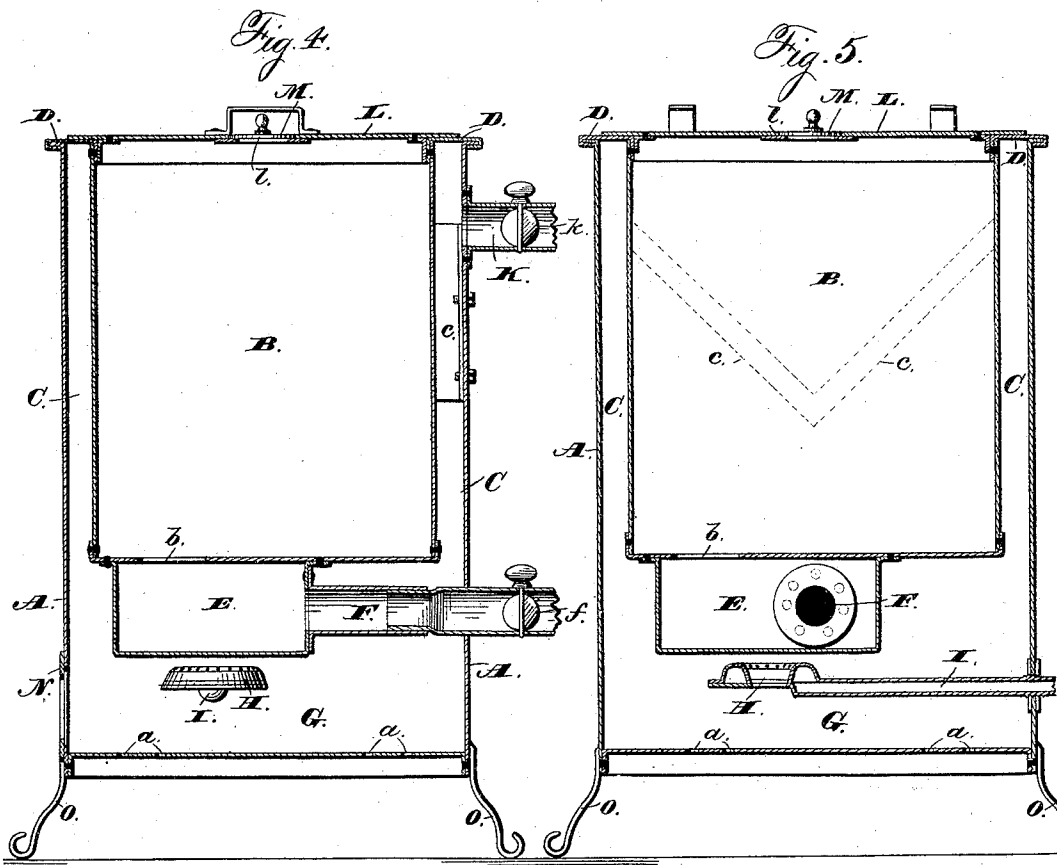
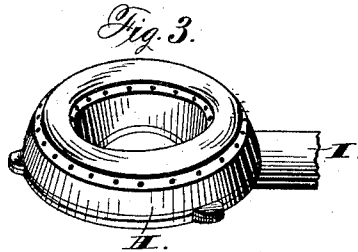
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UNITED STATES PATENT OFFICE.

A. H. P. STUART WORTLEY, OF LONDON, COUNTY OF MIDDLESEX, ENGLAND.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 286,160, dated October 2, 1883.

Application filed January 23, 1883. (No model.) Patented in England August 18, 1882, No. 3,952.

To all whom it may concern:

Be it known that I, A. H. P. STUART WORTLEY, of Rossllyn House, London, in the county of Middlesex, England, have invented certain new and useful Improvements in Gas-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view from the front of my improved stove. Fig. 2 is a like view of the same from the rear. Fig. 3 is a perspective view of the burner preferably employed. Fig. 4 is a vertical central section of said stove upon a line passing from front to rear, and Fig. 5 is a like view of the same upon a line parallel with the front.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to furnish in a cheap and convenient form means whereby combustible gases may be economically and safely used for heating and cooking purposes; and to this end it consists in the construction and combination of the various parts of the stove, substantially as and for the purpose hereinafter shown.

In the annexed drawings, A represents a rectangular casing constructed of or from sheet metal, and having its lower end closed.

Within the upper portion of the casing A is a chamber, B, which is formed by the insertion within the upper open end of said casing of a sheet-metal box that corresponds therewith in shape, but is somewhat smaller horizontally, so as to leave between the side walls of said parts a space or flue, C. The upper ends of said casing and chamber are united by means of a closely-fitting top plate, D, which extends between and is secured to the same. The lower end of the chamber B is at or near the vertical center of the casing A, and at said point, by means of an opening, *b*, communicates with a box, E, which is secured upon said lower end, and at one side is connected with a flue, F, that passes horizontally outward through said casing A.

Within the space G, immediately below the box E, is an annular gas-burner, H, to which

gas mixed with air is fed through a pipe, I, that passes horizontally inward through one side of the casing A, which combustible, being consumed at said burner, produces heat, that causes the air contained within said box to have a corresponding degree of temperature, and by rarefaction to ascend into and through the chamber B, its place being supplied by means of fresh air, which enters through the flue G.

The gaseous products of combustion from the burner H pass upward into the flue C around the chamber B, and assist to still further warm the air within the same, after which they escape from said flue into a chimney or into the air outside of the room in which the apparatus is placed by means of a flue, K, that passes horizontally outward from or near the upper end of said flue C.

In order that the gaseous products of combustion may be caused to circulate around the chamber B, instead of passing directly to and through the flue K, a deflector, *c*, (shown by dotted lines in Fig. 5,) is placed within the rear portion of the flue C and compels said gaseous products to pass to the upper end of the latter before entering said flue I. The upper end of the chamber B is inclosed by means of a cover, L, within which is an opening, *l*, that corresponds in size and shape to the opening *b* between said chamber and the box E, and is closed, when desired, by means of a plate, M. Said plate is adapted for use, also in closing said opening *b*, so as to prevent the passage of air from said box E to said chamber B.

Dampers *f* and *k*, placed within the flues F and K, respectively, a glazed door, N, placed within one side near the lower end of the casing A, feet O at the corners of said casing, and a number of openings, *a*, within the bottom of the same completes the device, the operation of which is as follows, viz: The stove is arranged with the cold-air duct F in communication with the outer air, the flue K in communication with a chimney or with the air without the room, and the pipe I in communication with a gas-supply, after which the gas is turned on and ignited at the burner H. Air from the flue F enters the box E, and, being

heated, passes upward into and through the chamber B, and, escaping into the room, furnishes the necessary heat, and at the same time replaces air which has become impure from use. The impure and cold air from the lower part of the room is drawn through the openings *a* into the combustion-chamber G, and, mingling with the gaseous products of combustion, passes upward and outward through the flue K, a complete circulation of air being thus effected, and thorough ventilation secured. By means of the dampers *f* and *k* the movements of the currents of air may be readily controlled, and the best obtainable result secured for the expenditure of a given amount of fuel.

The chamber B may be used for the warming and cooking of food, if desired, in which event it may be necessary to close the opening *b* for the admission of fresh air. The joints of the stove are preferably riveted; but they may be made tight by any other means, if desired.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The hereinbefore-described gas-stove, in which is combined the following elements, viz: the casing A, having openings *a* for the supply of air for combustion, the heating-chamber B, located within the upper portion of said casing, and provided at its lower end with the air-inlet opening *b*, the supplemental heating chamber or box E, placed beneath and in communication with said heating-chamber B, and having the air-flue F, the combustion-chamber G, located within the lower portion of said casing, and provided with the burner H, and the flues C and K, through which the gaseous products of combustion escape from the stove, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of May, 1882.

A. H. P. STUART WORTLEY.

Witnesses:

CHARLES JOHN FRY,

THOMAS GEORGE COLLETT,

Clerks to Messrs. Milne Riddle & Mellor, Solicitors, Temple, London.