A. BETTES.

Heating-Stove.

No. 165,295. Patented July 6, 1875.

Fig 1.

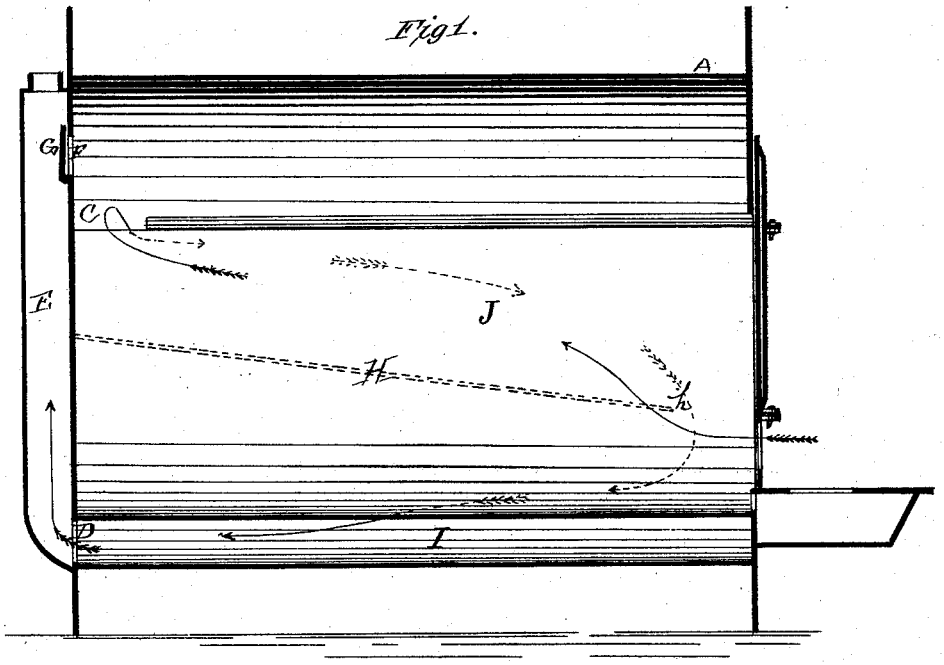
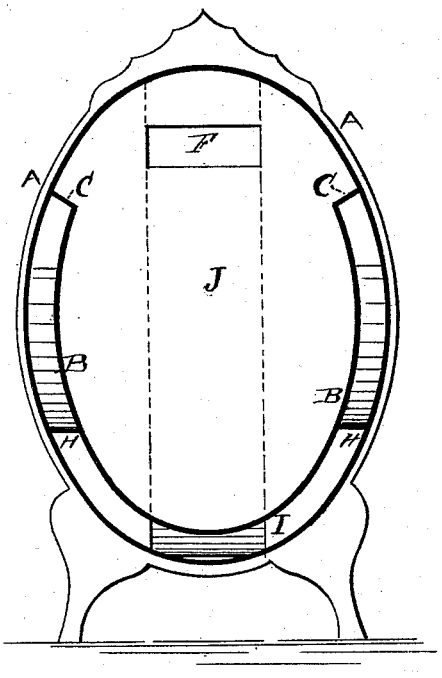


Fig 2.



Witnesses:

A. A. Moore
Warren Sheddi

Inventor:

Alexander Bettes

UNITED STATES PATENT OFFICE.

ALEXANDER BETTES, OF WARRENSBURG, MISSOURI.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **165,295**, dated July 6, 1875; application filed January 7, 1875.

To all whom it may concern:

Be it known that I, ALEXANDER BETTES, of Warrensburg, Johnson county, and State of Missouri, have invented an Improvement in Heating-Stoves; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention is an improvement in the class of heating-stoves which are circular or oval in cross-section, provided with return-flues on the sides, and have a damper so arranged that the products of combustion may be, at will, diverted from a direct course and caused to take a circuitous one.

The improvement relates to the specific construction and arrangement hereinafter described and claimed.

In the drawing, Figure 1 represents a longitudinal section, and Fig. 2 a cross-section, of my improved stove.

The horizontal body A is oval in cross-section, and provided with a lining or inner wall, B, except at the top. A hollow space or chamber, I, is thus formed between the lining B and shell A, on the bottom and sides of the stove. A diaphragm, H, divides each side portion of this chamber longitudinally, but it is cut away at the front end *h*, as shown in Fig. 1. A vertical exterior pipe or flue, E, extends from the bottom to the top of the stove, at which points it has communication with flue-chamber I and the main combustion-chamber J by means of openings D and F, respectively, the latter (F) being provided with a valve, G. It will be seen that when the valve G is left open, the products of combustion escape directly into flue E; but when the valve is closed, as in Fig. 1, and the direct escape thus entirely cut off, the same pass through the opening C in the top portion of lining B at the rear end of the stove, and thence follow the course of the arrows around the front end *h* of diaphragm H, thence into the bottom of the chamber I, and escape into the flue E through opening D. The effect of causing the products of combustion to take this circuitous course is, that the amount of heat radiated from the sides, bottom, and rear end of the stove is greatly increased without seriously lessening the force of the draft, upon which the intensity of combustion largely depends. A special advantage results from the passage of the products of combustion between the bottom of the lining B and the shell A, since the heat is radiated into the room at the lowest practicable point—*i. e.*, near the floor, where it is most required. In this respect, also, advantage is derived from the arrangement of flue E, and it (flue E) likewise increases the radiating-surface of the stove during the time the valve G is closed, while it forms a dead-air chamber at other times, thereby preventing active radiation of heat.

I am aware a stove provided with a chamber in its sides, also a stove having a chamber in the bottom, which the products of combustion may be caused to traverse at will, is not new, and I do not claim them.

What I regard as my invention is—

In a heating-stove, the combination of the oval or nearly cylindrical exterior case, the lining or inner wall B, arranged parallel thereto, and provided with openings at the top, near the rear end of the combustion-chamber, the diaphragm H, cut away at *h*, the flue E, joined to and forming an integral part of the case, and the openings D and F, the latter provided with a valve, G, all as shown and described.

ALEXANDER BETTES.

Witnesses:

A. A. MOORE,

WARREN SHEDD.