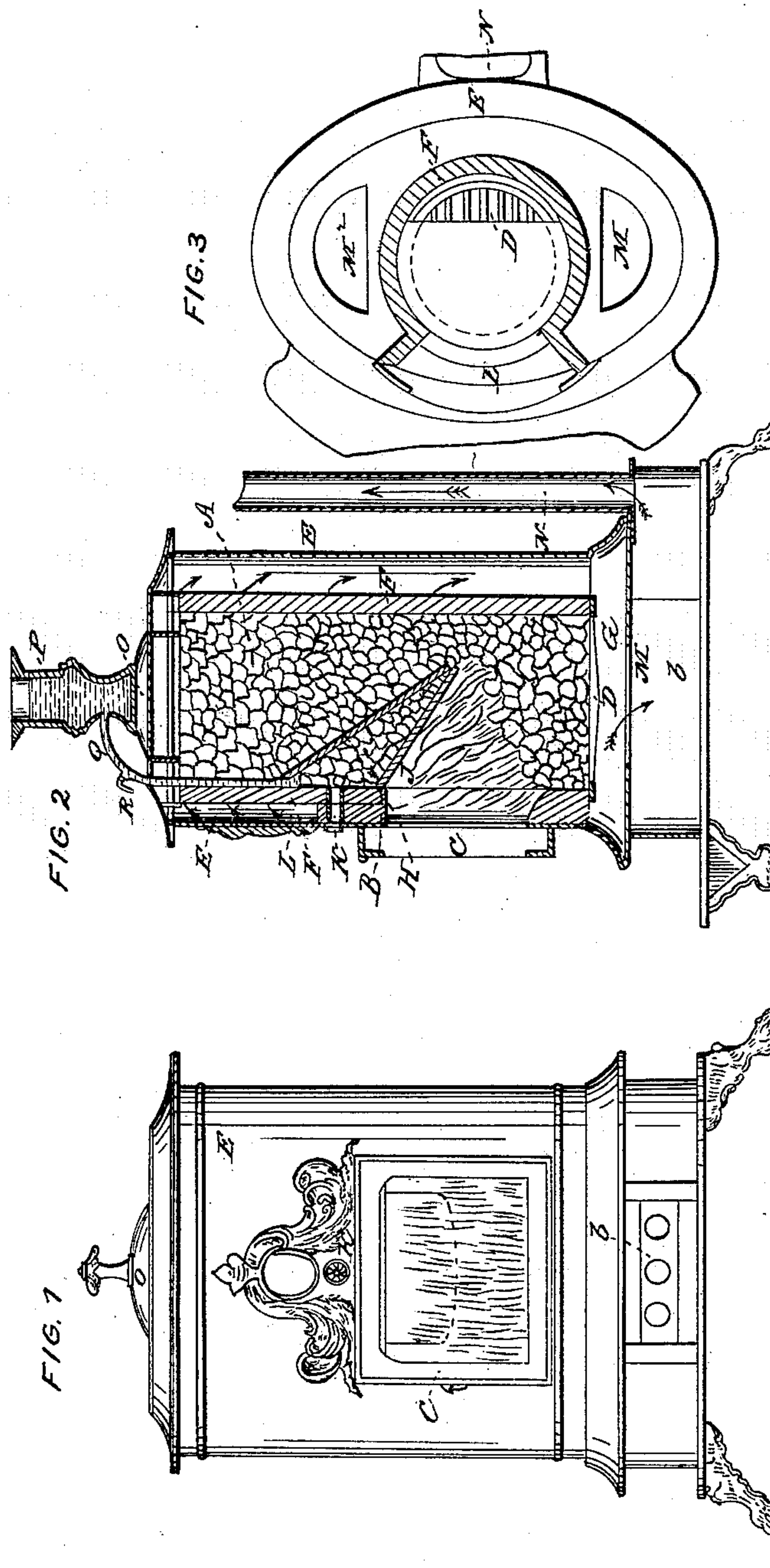


C. J. SHEPARD.

Magazine Stove.

No. 61,365.

Patented Jan. 22, 1867.



WITNESSES:

Geo. F. Gordon.

A. Turner

INVENTOR:

Charles J. Shepard by his a
Attorney.

United States Patent Office.

CHARLES J. SHEPARD, OF BROOKLYN, NEW YORK.

Letters Patent No. 61,365, dated January 22, 1867.

BASE-BURNING STOVE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES J. SHEPARD, of Brooklyn, Kings county, New York, have invented, made, and applied to use, certain new and useful improvements in the construction and operation of Base-Burning Stoves; and I do declare the following to be a full, clear, and correct description of the same, reference being made to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a front view of my improved base-burner.

Figure 2, a vertical sectional view of the same.

Figure 3, a horizontal sectional view of the same.

In the drawings, like parts of the invention are indicated by the same letters of reference.

The nature of my invention consists:

a. In the use or employment of the chamber B, constructed and operating substantially as hereinafter described.

b. In a stove with upper or reservoir chamber constructed substantially as shown, the use or employment of a door placed in position relatively to the grate as shown for the purpose more fully hereinafter described.

c. In the use or employment of water substantially as shown for the purposes hereinafter specified.

To enable others skilled in the arts to make and use my invention, I will speak of its construction and operation.

E shows the outer shell or radiating surface of the stove, and made in the usual manner. F shows a metal cylinder placed about centrally within this outer shell or radiating surface and resting upon the base-top G, also supporting the grate D; when placed in position, the cylinder is directly over the grate D. This cylinder, F, is divided by the diaphragm H, running at a suitable angle from the front of the cylinder a suitable distance, to properly feed the fuel to the chamber of combustion. This diaphragm H thus placed, divides the cylinder F, separating the reservoir or upper chamber A, in which the fuel is placed, from the chamber of combustion. J shows a second diaphragm, running angularly from the front of the cylinder to or near the end of the diaphragm H. The space enclosed between the diaphragms H and J forms an air-chamber, B, supplied with air through the opening K, in the outer shell E, which air passes into the chamber B, and is supplied to the combustion-chamber as required. This chamber B may be filled with any non-combustible material which will allow the air introduced through the opening K, into the chamber B, to pass to the combustion-chamber. As the air passes through this chamber B, to the chamber of combustion, (the non-combustible material placed in said chamber B having been heated by the heat rising from the combustion-chamber and permeating the diaphragm J,) it is heated, and in this heated condition is delivered directly to the combustion-chamber through a slot or openings, a, or the diaphragm J may be a perforated one, when desired, which will produce the same result. This chamber B prevents the intense heat from the chamber of combustion igniting the fuel placed in the reservoir-chamber A, while it employs the heat beneficially in treating, as just described, the air before it reaches the point of combustion. Thus the air admitted through the opening a into the combustion-chamber passes circuitously through the fuel to the back of the combustion-chamber, down, and thence turns and passes up, mixing with and producing a more thorough combustion of the gases of the fuel employed, and when desired, the ash-pit, b, may be closed; and the air admitted to the chamber of combustion through the opening a will serve to lessen the quantity of fuel consumed in the combustion-chamber, as the oxygen in the air thus admitted is added to and consumed with the flame from the fuel, and the result will be a brighter fire. The peculiar construction of the reservoir-chamber A insures the heating of the fuel placed therein prior to its supplying itself for combustion; thus, the fuel when supplied to the fire does not diminish the heat thereof as in the ordinary stove. It will be observed that the door C is placed level or nearly so with the grate D; this is done in order that the door C may more effectually serve as a radiating surface than if placed, as is usual in stoves, at a point above the horizontal line of combustion. Thus the whole face or top of the fire is exposed at an angle to produce the most complete result, and at the same time present a thin stratum of coal to be acted upon. The air for combustion is admitted through the ash-pit opening and passes through the fuel in the ordinary manner, while the products of combustion pass into a flue-opening, L. This flue-opening L can be made at the top or may be

taken off at the sides of the door C if desired. The products of combustion are further disposed of by passing down between the cylinder and the outer casing through the openings M M², in the base-top G, to the pipe N, or the products of combustion may, when desired, descend between the cylinder and the outer casing and be taken off at any suitable point above the base-top G. The reservoir-chamber A may be supplied with fuel by removing the cover O, of the stove, and the same, as wanted, descends to the chamber of combustion. P shows a reservoir for water placed upon the top of the stove, and Q is a pipe leading from the same directly to the chamber B. This pipe Q may be provided with a stop-cock, R, and is intended to conduct the water from the reservoir P to the chamber B. As previously stated, this chamber may be filled with an incombustible material, among which may be mentioned brick, stone, asbestos, or any substance that will not be affected by the heat and water introduced into it. The water is retained upon this substance and surface until it is received into the chamber of combustion. The water thus introduced is applied to the burning fuel and usefully consumed, adding greatly to the vigor of the same. When desired, a wick may be inserted in the pipe Q for supplying the water gradually from the reservoir P, to the chamber B, or other mechanical appliances may be resorted to.

I do not wish to be understood as intending to confine myself to the use of the chamber B, filled with non-combustible material, as I may in some cases prefer to remove the non-combustible material therefrom.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. the use or employment of the chamber B, constructed and operating substantially as described for the purpose set forth.
2. in a stove with the upper or reservoir-chamber constructed substantially as shown, a door placed in position relatively to the grate as shown for the purposes herein fully indicated.
3. The use or employment of water, substantially as shown for the purposes set forth.

CHS. J. SHEPARD.

Witnesses:

A. SIDNEY DOANE,

J. H. HOBART PINCKNEY.