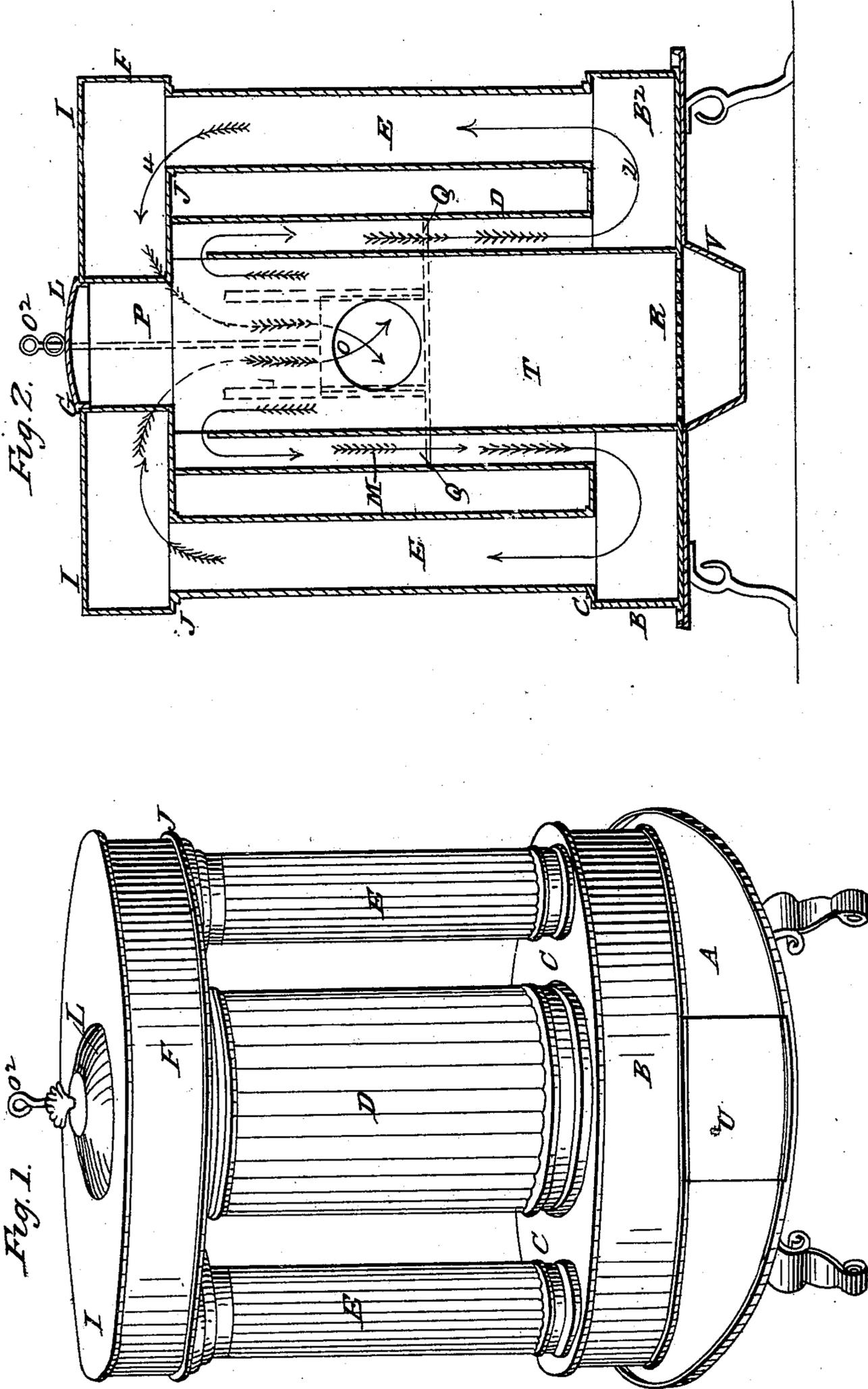


C. W. LEET.  
Heating Drum.

No. 4,375.

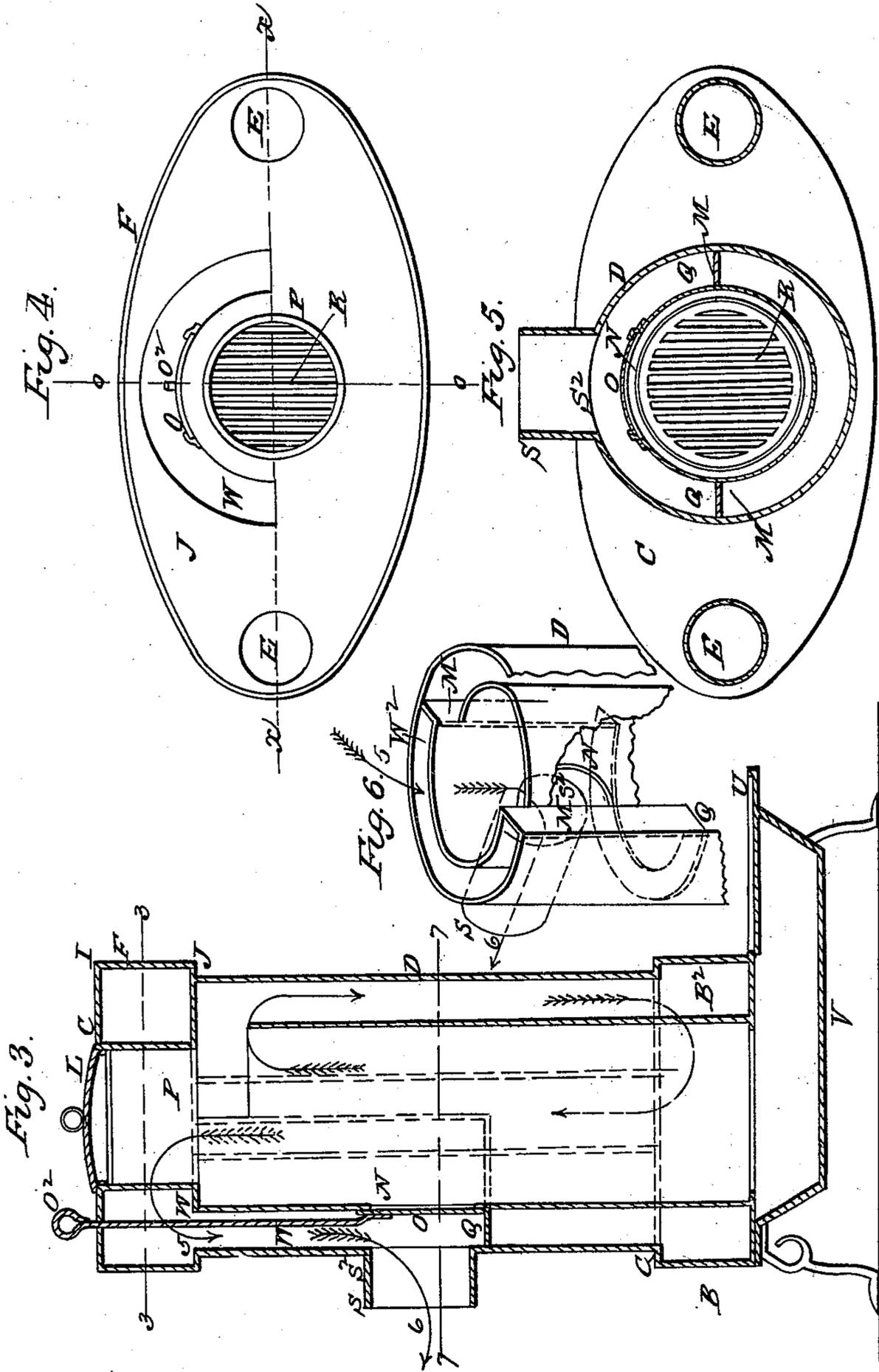
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# UNITED STATES PATENT OFFICE.

CHARLES W. LEET, OF VERNON, NEW YORK.

## PARLOR-STOVE.

Specification of Letters Patent No. 4,375, dated February 10, 1846; Antedated September 9, 1845.

*To all whom it may concern:*

Be it known that I, CHARLES W. LEET, of Vernon, in the county of Oneida and State of New York, have invented a new and useful Improvement in the Construction and Configuration of Stoves for Warming Parlors, Public Buildings, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification.

Figure 1, is a perspective view of the exterior of the stove. Fig. 2 is a vertical section at the line  $x x$  of Fig. 4. Fig. 3 is a vertical section at the line  $o o$  of Fig. 4. Fig. 4 is a horizontal section at the line 3 3 of Fig. 3. Fig. 5 ditto at the line 7 7 of Fig. 3. Fig. 6 is a perspective view showing the semicircular space at the smoke pipe.

*Explanations of the drawings.*

In Fig. 1 the perspective view of the front of the stove A is the bottom plate or base of the stove. U sliding plate in the hearth to regulate the draft, &c. B a band attached to an edge on the hearth, and to the under side of a cap plate above, forming the lower chamber, or oval base. C elliptic plate forming the cap of the lower chamber and the base of the outer cylinder D and columns E which rest thereon. D cylinder surrounding the chamber T, in which the fuel is consumed. E E columns through which the flue passes from the lower to the upper chamber. F elliptic cap or upper chamber, formed by the rim F and elliptic plates I, J. G aperture through the upper chamber for the introduction of fuel fitted with a lid L and collar P.

In Fig. 2, which shows the back side of the inner cylinder, &c., M M vertical partitions reaching from the inner to the outer cylinder thereby separating that portion of the space above the plate and between the cylinders from the remainder. N is an aperture for a flue which may be opened, when necessary to have a direct draft from the fire chamber to the smoke pipe, when kindling the fire. O sliding plate or damper by which the aperture is closed or opened at pleasure. O<sup>2</sup> handle of plate O.

In Fig. 3 J represents the lower plate of the upper chamber as fitted to the top of the cylinders and columns. E E exterior of the column through which the flue passes from the lower to upper chamber. P the collar around the opening to the inner cylin-

der for the introduction of fuel. Q semicircular or bottom plate of the space or aperture through which the flue passes from the upper chamber to the pipe S in the rear a cross section of said plate being shown in Figs. 2 and 3 and a top view of it in Fig. 5 and a perspective view of it by dotted lines in Fig. 6.

My stove may be made either of cast or sheet iron or part of one and part of the other and may be used for the consumption of wood or coal. In constructing it I use a circular hearth (in front) with an ash pan V sunk in the center running nearly across from front to rear fitted with a rim for the reception of the inner cylinder and in front with sliding plate U in Fig. 1 to regulate the draft &c. and cover the ash pit.

On the hearth A I make a collar or raised edge in shape and size corresponding with an elliptic plate hereafter described. This rim is surrounded by a band letter B connected to the said plate A forming with the cap C a chamber for the passage of the flue from the cylinders to the columns. The plate C forming the cap to this chamber is elliptic in form and contains three apertures, each surrounded with a rim on which the outer cylinder D and two side columns E rest. The outer cylinder, letter D, and columns E E should be of equal length and closely fitted to the plate A on which they stand, and to the cap C above. The upper chamber F is composed of two elliptic plates I and J corresponding with the lower chamber and connected with a band F; through this chamber there is placed a funnel P for the introduction of the fuel. The top of this aperture is fitted with a lid L.

On the rim of the hearth within the lower chamber I place my inner cylinder T with a grate R near the hearth on which the fuel is consumed. The back side of this cylinder T should be of sufficient length to reach the lower plate J of the upper chamber to which it should be closely fitted. The front half is made shorter to permit the flue to pass over it. The diameter of this cylinder should be 3 or 4 inches less than the outer cylinder to allow space for the flue between them. From the top of this cylinder and running down the sides on the diameter of the outer cylinder I arrange two vertical partitions M M of sufficient width to fill the space between the two cylinders and reaching the semicircular bottom Q separating from the

rest that portion of the space included between the cylinders which is immediately under the aperture W in the lower plate J of the upper chamber. Within the space W<sup>2</sup> thus separated on the back side I form an aperture fitted with a movable plate, letter O, which when open suffers the flue to pass directly to the pipes in the rear and when closed turns it through the chambers and columns. There is also an aperture S<sup>2</sup> in the outer cylinder opposite the one just described fitted with a collar to which the smoke pipe S is attached for carrying off the flue to the chimney. When the sliding plate O in the inner cylinder is closed the flue passes from the inner cylinder where the fuel is consumed over the front and down the space between the cylinders to the lower chamber B<sup>2</sup> and up through the columns to the upper chamber thence through the aperture in the lower plate of this chamber to the semicircular space W<sup>2</sup> and thence to the smoke pipe S in the rear is represented by the arrows 1, 2, 3, and 4, 5, 6, in Figs. 2, 3 and 6. It is well known that the stoves commonly used as air tight can have but little pipe because the gas and steam arising from the wood while charring not being carried off condenses in the pipe thereby causing it to drip, but with a short pipe is used as draft which is generally done more or less. The heat is carried off very rapidly causing a great waste in the consumption of fuel.

35 My principal design in the construction of this stove is to obviate these difficulties and connect in one the advantages of both. When no air is admitted by means of the

sliding plate U in front the steam is suffered to pass off to the chimney by raising the slide O and opening the aperture in the cylinder, and as not more than 18 inches or two feet of pipe is necessary there is no danger of its condensing, but when this aperture is closed the length of flue through the chambers and columns to the smoke pipe in the rear the great extent of surface presented to the action of the fire on one side and to the air of the room on the other, and the agitation of the current of heated air consequent upon its frequent change of direction as it passes off prevent any considerable portion of the heat from escaping, and consequently a smaller quantity of fuel is consumed to preserve the same temperature than in most of the stoves now in use, and all the disadvantages and inconveniences of a great extent of pipe are avoided.

What I claim as my invention and desire to secure by Letters Patent is—

The manner of conveying the draft as before described—that is to say, causing the draft to pass over the upper edge of the front half of the inner cylinder—thence down between the inner and outer cylinders into the oval base and thence up the columns into the oval cap and thence down into the semicircular space between the inner and outer cylinders and thence to the smoke pipe as above set forth.

Dated Vernon, Sept. 6, 1845.

CHARLES W. LEET.

Witnesses:

HIRAM PARSONS,  
DANIEL LAMB.