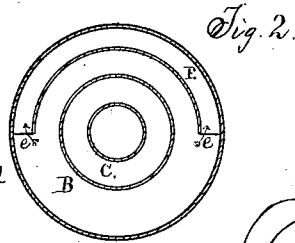
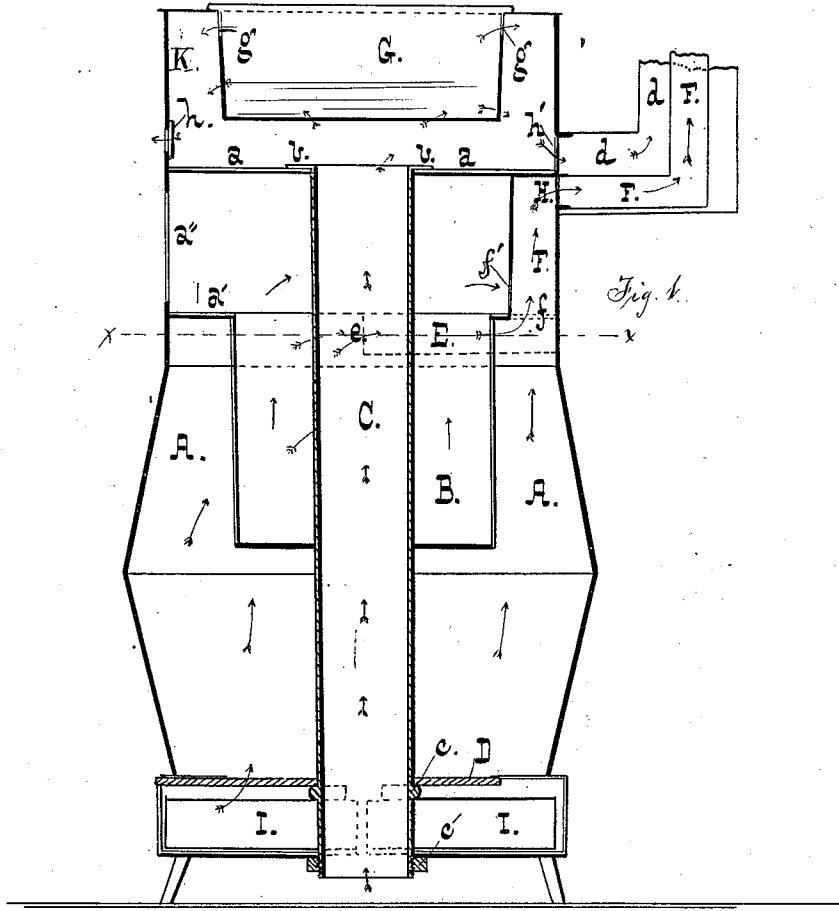


J. P. CLARK.  
Heating-Stove.

No. 215,881.

Patented May 27, 1879.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

JOHN P. CLARK, OF MOUNT WASHINGTON, MARYLAND.

## IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **215,881**, dated May 27, 1879; application filed March 14, 1879.

*To all whom it may concern:*

Be it known that I, JOHN P. CLARK, of Mount Washington, Baltimore county, State of Maryland, have invented certain new and useful Improvements in Heating-Stoves; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which the stove is illustrated, in—

Figure 1, in central vertical section, Fig. 2 being a sectional view on line *x x*, Fig. 1.

My invention relates to that class of stoves designed to heat the air in the apartment in which they are placed, and also to supply warm air to the upper apartments through suitable flues; and it consists in certain details of construction and combinations of parts, as hereinafter described and claimed.

In the accompanying drawings, A represents the stove proper, which may be of any desired size and shape, the form illustrated in the drawings being the usual "double cone" generally seen in magazine or base-burning stoves. A plate, *a'*, extends horizontally across the stove-body above the upper conical portion and sustains the magazine B, which is fed through a door, *a''*, in the front of the stove. Above the door is a second plate, *a*, also extending horizontally across the stove, and centrally perforated for the hot-air flue C. This latter is provided with a flange, *b*, which rests on the plate *a*.

The flue C extends clear through the stove below, where it is threaded and secured by a nut, *c'*, or in any other convenient way. The flue thus serves as a brace, strongly holding the various sections of the stove together.

D is the grate, of usual shape, but provided with a central aperture for the passage of the flue C, which is furnished with lugs *e*, upon which the grate rests. I I represent the ash-drawers, of which each extends half around the central flue, as shown in dotted lines.

Just below the plate *a'* is the flue E for the products of combustion, which extends half around the stove, and has an opening at *e* on either side, the object being to create a vertical draft and insure uniformity of combustion.

The flue E opens at *f* into the smoke-flue F, which is provided with a damper, H, operated in any convenient way. The smoke-flue F is inclosed by a hot-air flue, *d*, which leads to the upper apartments, whereby the heat of the products of combustion is utilized after the same have left the stove.

K is the hot-air chamber at the top of the stove, which is provided with holes *h*, covered or not by a damper, as shown. A water-vessel, G, having a series of orifices, *g g*, is let into the top of the stove, and occupies the center of the hot-air chamber.

In the drawings the short arrows indicate the direction of the hot-air currents. The air enters at the bottom of the flue C, and becomes highly heated as it passes through that portion of the flue within the zone of combustion around it, and escapes into the chamber K.

If it is desired to heat the chamber in which the stove is placed, the holes *h* are opened, and the orifice *h'*, leading into the exit-flue, is closed, when the heated air streams through the openings *h* into the apartment.

When it is desired to heat the upper apartments, the positions of the dampers are reversed. The water in the vessel G is meanwhile gradually evaporated, giving a pleasant degree of moisture to the heated air.

The long arrows represent the course of the products of combustion. The air enters through the grate, as usual, and sweeps up around the magazine, entering the openings *e* of the flue E at either side, and passes into the smoke-flue F.

The unfeathered arrows indicate the course of any coal-gases from the magazine, which gases find exit from the latter into the chamber above the plate *a'*, and from thence through the opening *f'* into the smoke-flue F.

What I claim is—

1. In combination with the flue F, the flue E, semi-annular in shape, and opening at either side of the stove, as set forth.
2. The stove A, having plates *a a'*, central flue, C, and magazine B, substantially as described.
3. In combination with the stove A, having

plate *a*, the flues *d* and F on opposite sides of the latter, substantially as described.

4. The stove A, subdivided, as described, into three compartments by the plates *a a'*, and having the flue *d*, encircling the smoke-flue F, whereby the heated air is kept separate from the coal-gases and products of com-

bustion while utilizing the heat of both, as set forth.

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