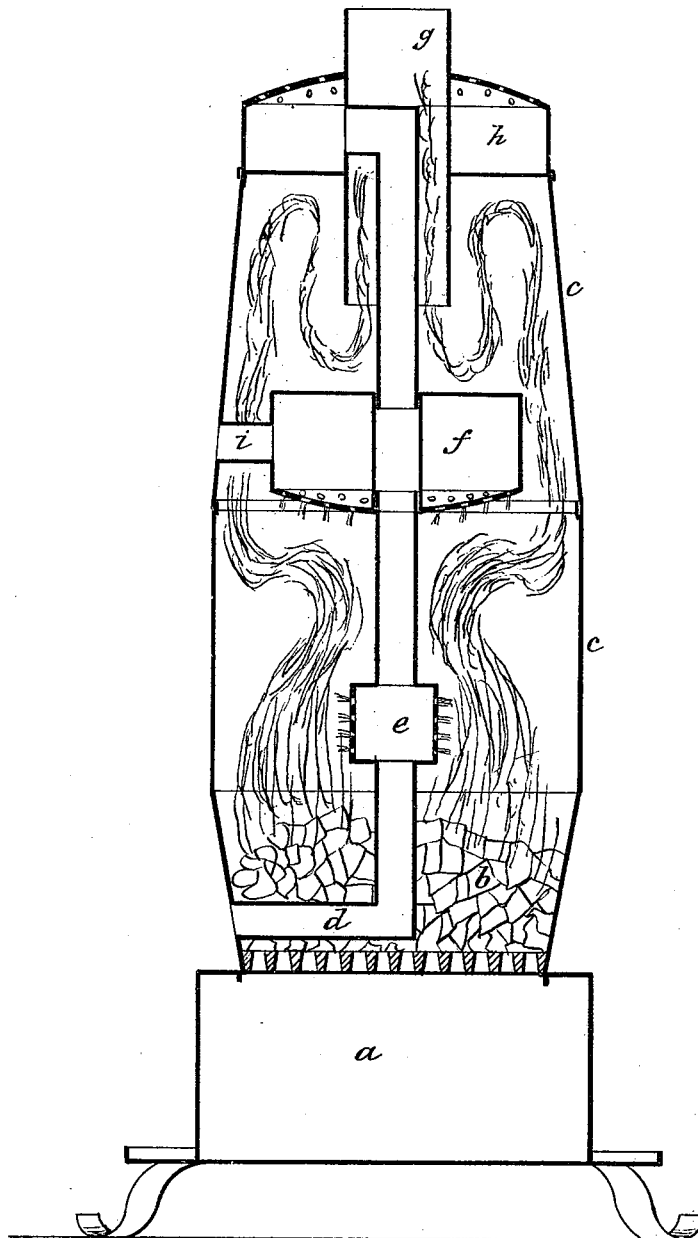


P. GOODHUE.

Heating Stove.

No. 7,164.

Patented March 12, 1850.



# UNITED STATES PATENT OFFICE.

PERRY GOODHUE, OF CINCINNATI, OHIO.

## AIR-HEATING STOVE.

Specification of Letters Patent No. 7,164, dated March 12, 1850.

*To all whom it may concern:*

Be it known that I, PERRY GOODHUE, of the city of Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in Stoves for Heating Domestic or other Apartments; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, in which drawing a vertical and central section exhibits the characteristics of the stove.

The nature of my invention consists in constructing stoves or other similar structures so that the fire once lighted, the fuel shall be confined in a bowl or other shaped vessel to which air can alone have access through perforations in the bottom of a cylindrical vessel inserted within and of lesser diameter than the drum usually placed over the fire bowl for the purpose of radiating heat. The perforations being thus located the jets of air are thrown down directly into the heart of the fire and the flame is forced to lick the sides of the drum as it passes through the annular space between the air-jetter and the drum. I also pass a pipe through the fire, the pipe having an enlargement perforated for the purpose of throwing jets of air athwart the direction of the downward jets of air before mentioned, thus creating a commotion calculated intimately to commingle the downward and horizontal jets of air with the flame and gases of the fire; and also continuing the pipe through the aforementioned cylindrical downward air-jetter, up to a reservoir located on the top of the drum, the reservoir having a perforated top and thereby discharging the heated air into the domestic or other apartment.

As symmetrical work is more readily made than any other, I effect my purposes by the following construction as illustrated in the drawing—(a) is the ash-box made as air tight as possible—(b) the firebowl resting on and centrally over it—(c) is the drum resting on the fire-bowl—(d) is a pipe passing through the fire-bowl to the heart of the fire and then rising perpendicularly and centrally and having an enlargement (e) about on a level with the top of the fire-bowl. This enlargement is perforated with holes suitable for jetting air horizontally all around it. The pipe (d) is then continued up through the cylindrical and

downward air-jetter (f) and is thence continued through the exit pipe (g) till it turns off by an elbow into the air reservoir (h) which is located on the top of the drum and around the pipe (g). The pipe (d) is thus made to aid combustion and distribute heated air throughout the domestic or other apartment. The downward air-jetter (f) has air admitted to it from one or more pipes (i) passing through the sides of the drum (c) and sustaining the vessel (f) in its position about one half way up the height of the drum (c).

The exit-pipe (g) is made to dip down some distance into the drum, say till the same area or a little more than that of the exit-pipe (g) is left between it and the top of the air-jetter (f).

It will thus be seen that the results of combustion are made thoroughly to commingle with jets of air so thrown in and from vessels so located and formed as to force the flames to lick the sides of the drum and thus put in active operation the greatest amount of radiation—and at the same time it will be perceived that I throw a numerous series of jets of highly heated air into the domestic or other apartment and thus keep the atmosphere in active circulation.

Having thus fully, clearly and exactly described the nature construction and operation of my invention in heating-stoves what I claim therein as new and desire to secure by Letters Patent is—

1. Inserting the vessel (f) as described for throwing down jets of air directly upon the flame and other results of combustion; the cylindrical vessel (f) being of lesser diameter than the drum (c), half way up and within which it is placed, so that the flame and results of combustion are commingled with the jets of air and more thoroughly consumed and are also forced to lick the sides of the drum and thus cause the greatest possible radiation of heat.

2. And in combination with the foregoing I claim the pipe (d) with its enlargement (e) and the reservoir (h) as described, for carrying a column of air through a pipe led through the heart of the fire, this pipe being enlarged about the level of the top of the fire-bowl so as to throw jets of air athwart the direction of the downward jets before described, and this pipe being also continued up to a reservoir on the top of the drum, through perforations in the top of

which air reservoir, jets of heated-air are continually thrown into the domestic or other apartment; by which general construction of this pipe I effect a complete  
5 commingling, consuming and outward forcing of the results of combustion against the sides of the drum and at the same time furnish to the apartment an agent for heating

and keeping up an active circulation of the 10 atmosphere in the room to which heat is to be imparted.

P. GOODHUE.

Witnesses:

EDWARD H. KNIGHT,  
E. SINGER.