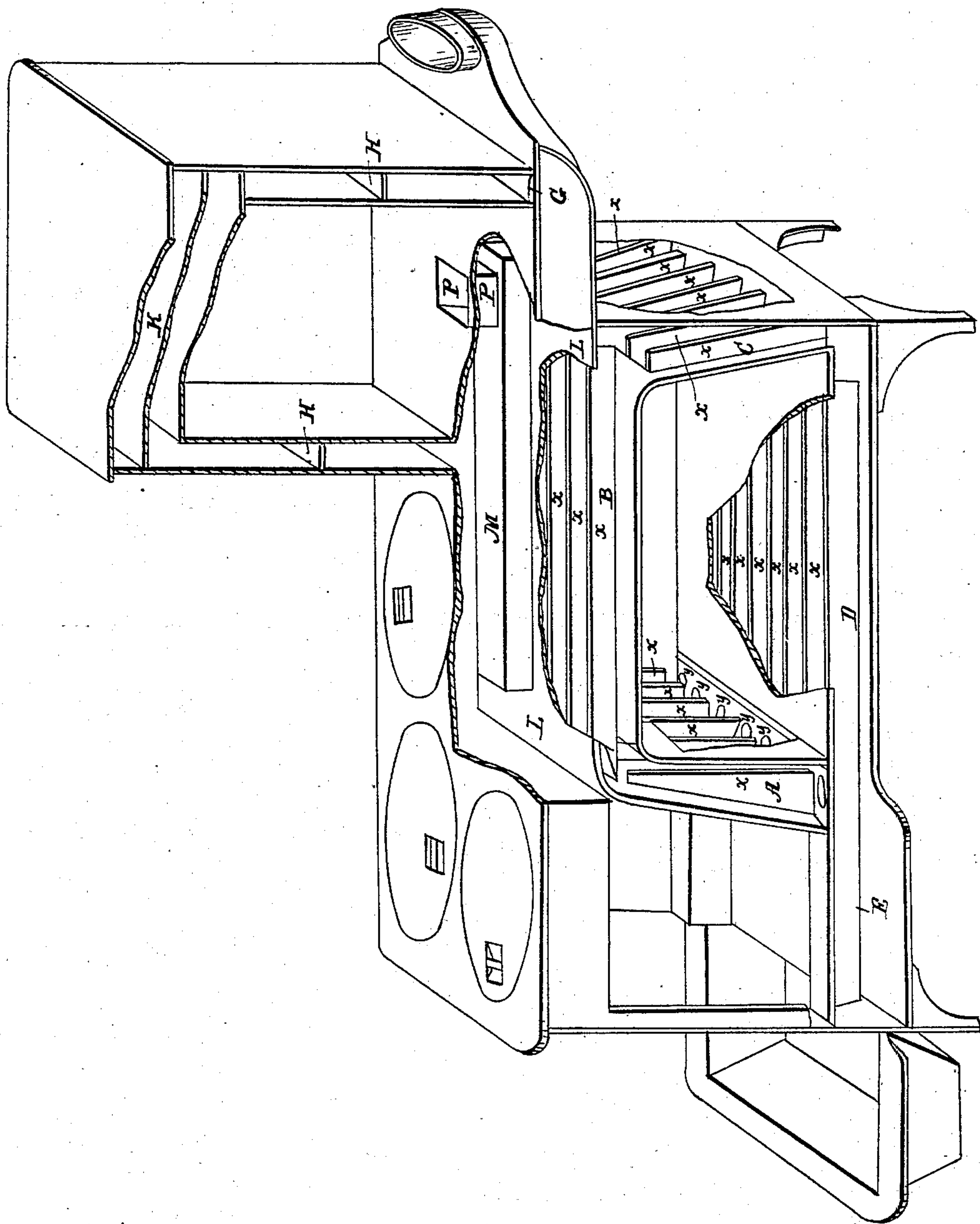


S. PIERCE.  
Cooking Stove.

No. 15,952.

Patented Oct. 21, 1856.



Witnesses:

*Samuel Pierce*  
*H. C. Miller*

Inventor:

*Samuel Pierce*



# UNITED STATES PATENT OFFICE.

SAMUEL PIERCE, OF TROY, NEW YORK.

## COOKING-STOVE.

Specification of Letters Patent No. 15,952, dated October 21, 1856.

*To all whom it may concern:*

Be it known that I, SAMUEL PIERCE, of Troy, State of New York, have invented a new and Improved Method of Constructing Cooking-Stoves; and I declare the following specification, with the drawings hereto annexed as part of the same, to be a full and perfect description thereof.

In the ordinary way of constructing cooking stoves the ovens are heated by means of a direct current of fire and heated gases carried by flues around the whole or a greater part of the surface of the oven. This direct action of the fire upon the plates of which the oven is formed, in my opinion produces too great inequality in the distribution of heat, to permit the oven to bake or cook its contents properly. To avoid this inequality and produce a more perfect distribution of caloric to the entire surface of the oven, I propose in some cases to employ a radiating apparatus attached to certain plates of the stove and to others of the oven, to communicate and transmit to the oven plates the caloric from the fire-box by means of air circulating freely externally around the oven; and in other cases to transfer the caloric to the interior of the oven by a dumb flue placed below it and communicating with it through its bottom.

The drawing represents a cooking stove, with a lower and an elevated oven, parts of the plates being removed showing the fire-chamber and ovens of the usual form and position in reference to each other. The lower oven is placed within an air chamber, the lowest portion of which communicates with another chamber E lying underneath the ashpit of the firechamber or box and below the level of the first named chamber, E being also a close chamber.

The back plate of the fire box, the lower plate of the upper or fire flue, the back and bottom plates of the oven have projecting from them into the airchamber, thin metal slats  $x\ x\ x$  lying parallel with each other, running perpendicular in the upright plates, and lengthwise on the horizontal plates. The lowest or bottom plate of the oven is made a continuation of the ashpit of the stove which itself sets down within the chamber E for the purpose of transmitting the heat of the ashpit, and in order to permit the free passage of air between A and

E holes  $y, y, y$ , are made in said plate between the slats  $x, x, x$ .

The operation of this apparatus is simple and effective. As soon as the plates of the firebox, and upper flue become heated, they communicate their caloric quickly by the conduction and radiation of their slats to the cold air of the airchamber lying next them in A and B, which rises to the top of the chamber. As the caloric of the air thus warmed is absorbed by the plates of the oven the cooled air descends taking the coolest passage C and so drops down into D and thence into E the lowest and coolest chamber, whence it rises to take the place of the air which having been rarefied has passed up through A to B. This process of heating and cooling induces a slow circulation, the slats  $x, x, x$ , conducting and radiating the heat of the firebox and fire flue plates into the airchamber, and in the back and lower part of the airchamber absorbing and conducting its heat to the oven plates, producing an admirable equalization of the temperature of the oven plates adapted to cooking much more perfectly than with the ordinary method of heating the oven.

The other method which I apply principally to heat elevated ovens is as follows: The oven itself is made as usual with double sides and top. The space between the plates is open at bottom and communicates at G G with the upper flue of the stove. This said space is closed not quite half way up to the top with a horizontal partition H. The space at the top of the oven is divided into an upper and lower chamber by a horizontal partition K, the upper chamber serving to prevent too free radiation of the heat in the lower chamber and consequently from the oven itself. On the bottom plate L of the upper flue at or along its center an oblong box M, whose bottom is part of said bottom plate, is formed, lying lengthwise and extending from near the front to near the rear of said flue communicating with the oven by a pipe P passing just through its bottom plate. The box M having only the one opening at P forms a sort of hot-bay by which a portion of the heat from the fire flue is passed to the interior of the oven, a circulation of caloric through the oven being produced by the currents of air caused by the cooling



of the air at the top of the oven, its descent into the box M where it is reheated and reascends in a constantly repeated process.

I claim—

5 1. The flanges or slats  $x, x, x$ , for the purpose and in manner and form as described and set forth in the within specification.

10 2. Also, I claim the method of constructing the ashpit and lower oven bottom plate in one piece with holes  $y, y, y$ , for the passage of air, in manner and form as set forth and described in the within specification for the purpose of communicating a greater de-

gree of caloric to the air in the air chamber surrounding the oven.

15 3. Also, I claim the employment of the dumb-flue M lying within the upper fire flue, and forming part of its lower plate, and communicating with the elevated oven by a passage opening into its bottom sub- 20  
stantially as set forth and described in the above specification.

SAMUEL PIERCE.

Witnesses:

RICHD. VARICK DE WITT,  
W. C. MILLER.