R. D. GRANGER.

Cooking Stove.

No. 6,068. Patented Jan'y 30, 1849.

Fig. 1.

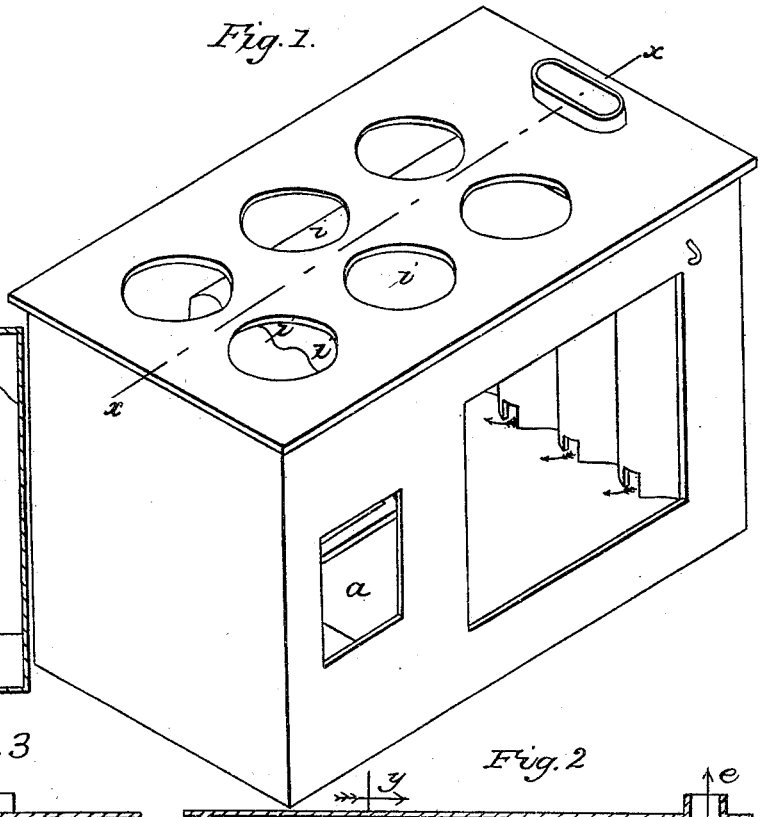


Fig. 4

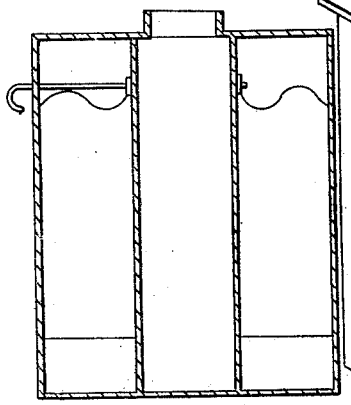


Fig. 3

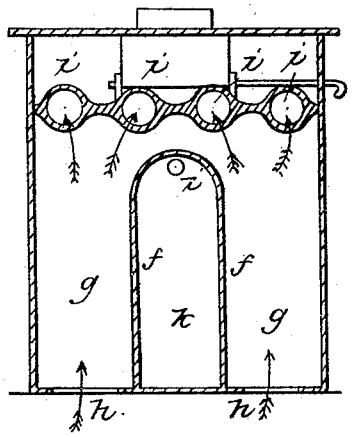
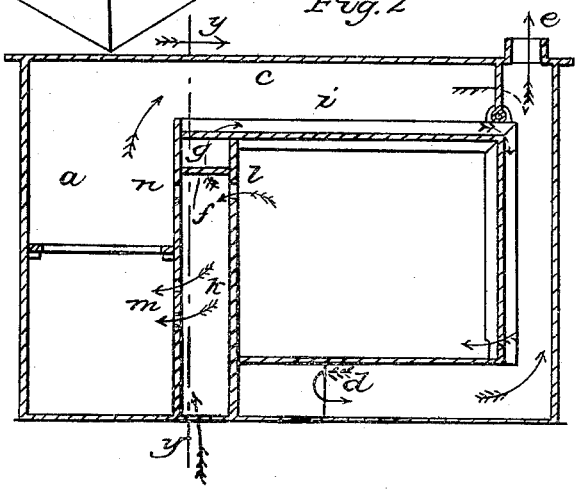


Fig. 2



UNITED STATES PATENT OFFICE.

R. D. GRANGER, OF ALBANY, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 6,068, dated January 30, 1849.

To all whom it may concern:

Be it known that I, R. D. GRANGER, of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Cooking-Stoves, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, making part of the same, in which—

Figure 1, is an isometrical view, Fig. 2, a longitudinal section. Fig. 3, a cross section on line *y*, *y*, of Fig. 2. Fig. 4, is a section down the back flues to show the division.

The nature of my invention consists in the manner of introducing highly heated air into the oven of a reverberatory or diving flue cooking stove, the air itself being made to pass around three sides of the oven before entering it.

The construction is as follows: The stove is oblong, and of common construction, with the fire chamber (*a*) occupying the front division thereof, with the oven (*b*) directly behind it. The smoke flue (*c*) passes back horizontally from the fire chamber directly under the top plate the whole width of the stove, descends down each back corner, see Fig. 4, which is a section of back flues, and thence under the bottom to a point (*d*), Fig. 2, and then returns back in the center, and out at the opening (*e*): this course is designated by black arrows, which are dotted behind the partitions and as the construction is an old and well known one, no further description thereof is deemed necessary. Between the fire chamber and the oven there is a space which is divided into three, (see Fig. 3,) by the partition (*f*); the two outer spaces (*g*) being joined at top, as is clearly shown in this figure, the two outer spaces open to the external air through the bottom plate at (*h*); at the top of the chambers there are a series of horizontal tubes (*i*) which connects with said chambers, and extends back over the oven to the back thereof, and thence down the back to the bottom, where they open into the oven. These tubes are connected, as shown on Fig. 3, and form the top and back plates of the oven. The center space (*k*) back of the fire chamber has a small hole (*l*) connecting it with the oven, and below the grate it opens at (*m*, *m*,) into the fire chamber to supply the fire with the draft; small air holes (*m*) are also made from the fire chamber into this space (*k*) over the fire, that serve to admit a small portion of air to the unconsumed gases as they are evolved from the fires. The course of the air through these spaces above described is shown by red arrows, and will readily be understood by reference to the various figures. It is obvious that the tubes may be replaced by a broad flue, and other minor modifications may be made in the construction, while the principle remains the same. The effect of this arrangement is to regulate and reduce the excess of heat at the front and top, and distribute it more equally through the oven, portions only of the top and back plate radiate heat directly into the oven, while all the surplus heat from the fire is carried into the oven, near, or at its bottom, to disseminate through it, and is thence conveyed in a heated state, together with the steam and effluvia arising from cooking, directly into the fires, to support combustion.

Having thus fully described my improvement, and its mode of application, what I claim therein as new, and for which I desire to secure Letters Patent, is—

1. The employment of air passages, for the purpose of equalizing and economizing the heat in the oven, substantially in the manner described.

2. I also claim the construction for the introduction of heated air into the oven, as described, and withdrawing the same, and passing it under the grate of the fire chamber to support combustion substantially as set forth.

3. I also claim the divisions (*g*, *g*,) and (*k*,) between the fire chamber, and oven to form the air passages illustrated in the body of the description, substantially as set forth.

R. D. GRANGER.

Witnesses:

J. J. GREENOUGH,

WM. GREENOUGH.