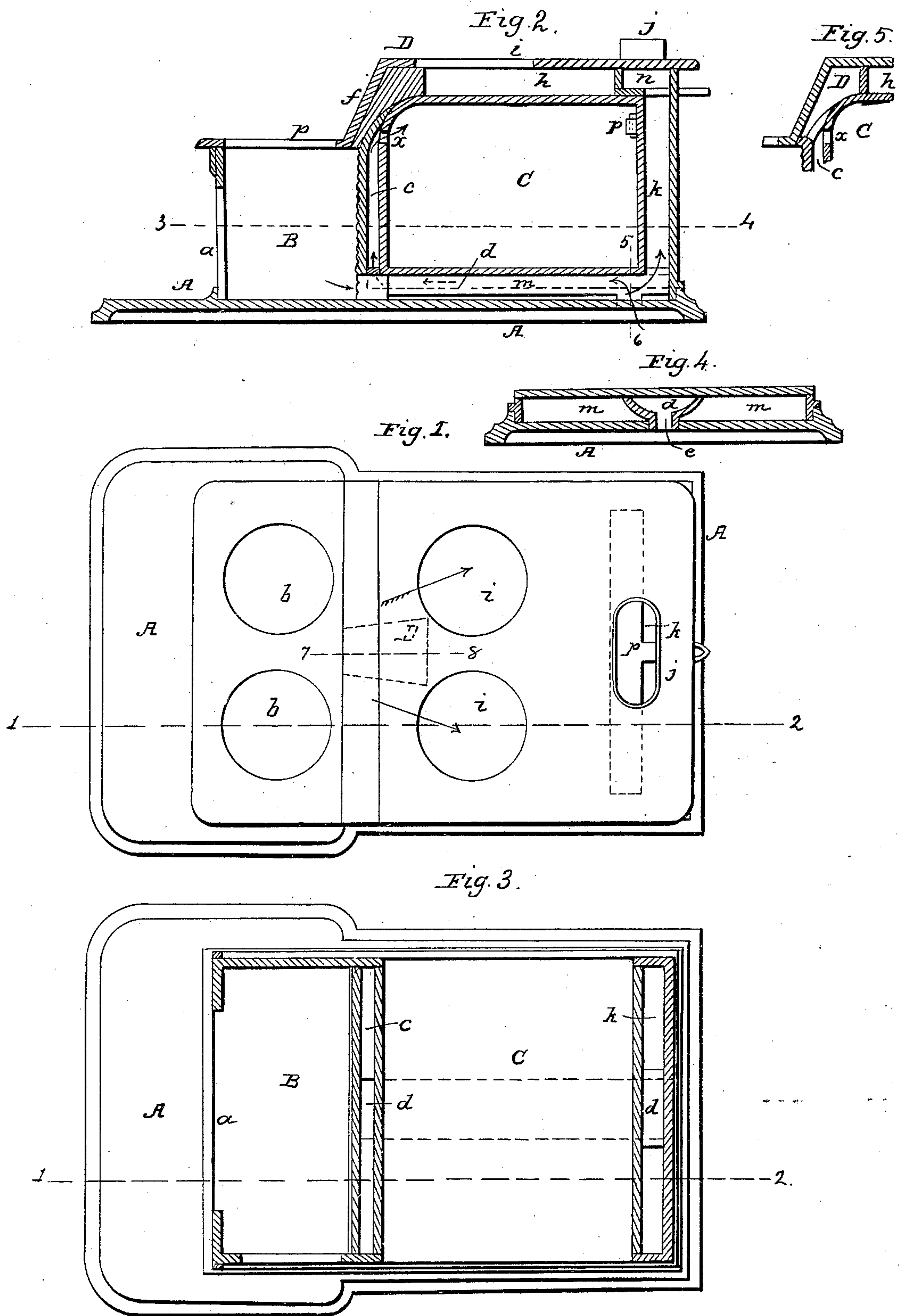


R. D. GRANGER.

Cooking Stove.

No. 18,737.

Patented Dec. 1, 1857.



UNITED STATES PATENT OFFICE.

R. D. GRANGER, OF PHILADELPHIA, PENNSYLVANIA.

COOKING-STOVE.

Specification of Letters Patent No. 18,737, dated December 1, 1857.

To all whom it may concern:

Be it known that I, RENSSELAER D. GRANGER, of the city of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Cooking-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to improvements in "cooking stoves" for which a patent was granted to me on the twenty first day of March A. D. 1848 and the improvements consist in forming, underneath the oven, a chamber through which a current of cold air entering at the rear of the stove may pass into a space between the back of the fireplace and front of the oven, and thence, either into the interior of the latter, or into the external atmosphere, the said cold air chamber serving the purpose of dividing the flue for the passage of the products of combustion under the oven to the chimney.

The object of my improvements is to counteract the excessive heat on the bottom of the oven and at the same time that of dividing and dispersing the products of combustion underneath the oven.

In order to enable others skilled in the art to make and use my invention I will now proceed to describe its construction and operation.

On reference to the drawing which forms a part of this specification, Figure 1 is a ground plan showing my improvements in cooking stoves. Fig. 2, a sectional elevation on the line 1—2 Fig. 1. Fig. 3, a sectional plan on the line 3—4 Fig. 2. Fig. 4, a transverse section of the lower part of the stove on the line 5—6 Fig. 1. Fig. 5, a section on the line 7—8, Fig. 1, showing the wedge formed division.

Similar letters refer to similar parts throughout the several views.

A is the bottom plate of the stove, B the fireplace having two openings *b*, *b*, on the top as usual, for boilers and other cooking utensils, and C is the oven with doors on each side, between the back of the fire-place and the oven is a space *c*, communicating in one direction through a horizontal passage *d* formed under the oven, and through a ver-

tical passage *e* with the air of the apartment, and in another direction through any convenient number of orifices *x*, with the interior of the oven, which is also furnished with a ventilating valve *p*. The orifices *x* *x* may be dispensed with and the space *c* may be open at the sides as in my above mentioned patent. The space *h* forms the upper, and the space *m* the lower passage for the products of combustion to the chimney, the latter space communicating with the vertical space *k* at the back of the oven, above which is a valve *n* by moving which the heat from the fire, can be made to pass either under or over the oven.

D is a hollow wedge formed division situated at the point where the products of combustion pass from the fire place to the upper passage *h* in order that the heat may have a tendency to take the direction pointed out by the arrows, (Fig. 1) previous to passing through the exit *j* to the chimney. The interior of the division D communicates with the space *c* as shown in Fig. 5.

When the valve *n* is in the position shown in Fig. 2, the heat will pass through the chamber *m* underneath the oven and upward through the passage *k* to the chimney, an undue heat would consequently be imparted to the bottom plate of the oven was it not for the chamber *d* along which passes a constant supply of cold air, which counteracts the excess of heat, at the same time the cold air passes along the chamber *d*, and upward through the space *c*, from which it may pass either into the interior of the oven through the orifices *x* *x*, or directly out of side openings to the external atmosphere. The back plate of the fireplace is thus as efficiently protected as in my above mentioned patent. When the valve *n* is moved so as to cover the top of the passage *k* the products of combustion will pass on each side of the hollow wedge formed division D taking the angular course pointed out by the arrows Fig. 1, before they are discharged into the chimney.

I do not desire to claim exclusively the dividing of the lower flue for the products of combustion, but I claim as an improvement in the stove for which a patent was granted to me on the first day of March A. D. 1848—

Forming underneath the oven, a chamber

through which a current of cold air, entering at the rear of the stove, may pass into the space between the back of the fireplace and front of the oven, when the said chamber serves the purpose of dividing and dispersing the products of combustion as they pass through the lower flue to the chimney.

In testimony whereof, I have signed my name to this specification before two subscribing witnesses.

R. D. GRANGER.

Witnesses:

HENRY HOWSON,
WILLIAM E. WALTON.