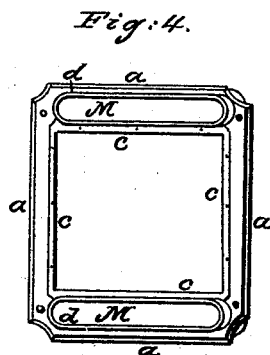
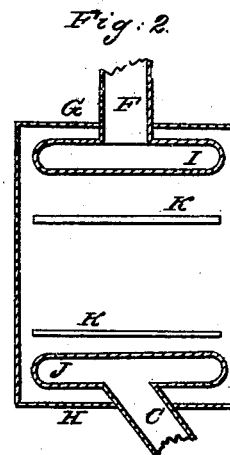
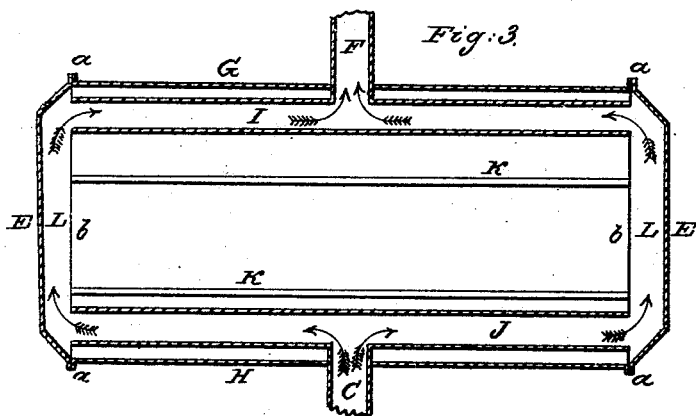
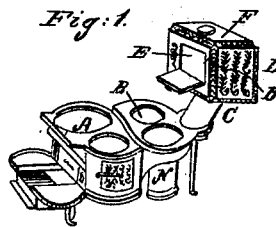


R. D. GRANGER.

Cooking Stove.

No. 2,308.

Patented Oct. 11, 1841.



# UNITED STATES PATENT OFFICE.

RENSSELAER D. GRANGER, OF ALBANY, NEW YORK.

## METHOD OF CONSTRUCTING THE FLUES OF ELEVATED OVENS TO BE COMBINED WITH COOKING-STOVES.

Specification of Letters Patent No. 2,308, dated October 11, 1841.

*To all whom it may concern:*

Be it known that I, RENSSELAER D. GRANGER, of the city of Albany, in the State of New York, have invented a new and Improved Manner of Constructing an Elevated Oven to be Combined with a Cooking-Stove; and I do hereby declare that the following is a full and exact description thereof.

The cooking stove to which my elevated oven is attached may be varied in form, and said oven may be applied to many stoves now in use; that to which I have actually applied it is represented at Figure 1, in the accompanying drawings. In this figure, A, is the top plate of the fire chamber perforated with holes for the reception of cooking vessels, and otherwise constructed in the ordinary way. B, is a second compartment for the reception of cooking utensils, the heated air passing through it on its way to the pipe, or flue, C. Upon this flue is situated the elevated oven D, the manner of constructing which I will now describe. This elevated oven has its two ends E, double, so as to constitute flue spaces through which heated air may pass; and within the oven there are two flat flues, one near to its upper, and the other near to its lower side, the ends of which open into the flue spaces at the two ends of the oven. The pipe, or flue, C, passes through the bottom plate of the oven, and enters the lowermost of the above named flues at its center; and there is an exit, or smoke, pipe F, passing from the middle of the uppermost of these flues, through the top plate of the oven.

Fig. 2, is a cross section through the middle of this oven. G, is its top, and H, its bottom plate. I, its upper, and J, its lower flue; into the latter of these flues enters the flue, or pipe, C, leading directly from the stove; and from the upper flue I, proceeds the exits, or smoke, pipe F. K, K, are shelves which may be formed of open bars, or grating.

Fig. 3, is a longitudinal, vertical section along the middle of the oven; and Fig. 4, is an inside view of one of the cast-iron end pieces. In each of the figures, where like parts occur they are designated by the same letters of reference. The course of the draft into and around the oven is shown distinctly

in Fig. 3. The heated air enters the flat flue J, through the pipe C, and passing in either direction, enters the spaces L, L, between the inner ends of the oven and the outer end plates E, E. These outer end plates I make of cast-iron, and attach them to the body of the oven by flanches at *a, a*, or in any other convenient way. The inner end plates *b, b*, of the oven, I prefer to make of sheet-iron, as the heat is thereby economized; and I usually affix this sheet-iron end plate to each of the cast-iron ends in the following manner.

Fig. 4, is the inner side of one of the cast-iron end plates; the dark portion M, M, M, is the depression which constitutes the flue space L, L. *c, c, c*, is a rim to which I rivet a plate of sheet-iron which is to constitute an inner end plate, and *d, d*, are projecting collars which enter the ends of the flues I, and J; and when these end plates are attached to the ends of the body of the oven by their flanches *a, a*, the arrangement of the flues is complete.

By passing the flues I, and J, directly through the oven, the whole of the heat that is radiated from them on all their sides, is radiated into the oven itself, while when the sides of the oven constitute a flue space the larger portion communicated to them by the heated air is radiated into the apartment, and is lost, so far as the operation of baking is concerned. The only portion of the flue space that has one of its plates exposed to the external air in my improved elevated oven, is in the end passages between the flues I, and J. In summer, or at seasons when it is not desired to make a fire in the ordinary fire chamber of the stove, I employ a small furnace situated as at N, in Fig. 1. This furnace is constructed like the ordinary domestic cylindrical furnace and passes through a hole in the bottom plate of that part of the stove similar to one of the boiler holes in the upper plate. By making a fire of chips, or of charcoal, in this furnace, and closing all the openings into the stove excepting the draft hole in the bottom of this furnace, the oven may be readily heated, and boiling effected directly over said small furnace.

What I claim as new in the above appa-

ratus, and desire to secure by Letters Patent,  
is—

The manner in which I have constructed  
the elevated oven, by extending two flat flues  
5 at either end, by means of end plates, ar-  
ranged and operating substantially as set  
forth; the heated air from the fire chamber

entering the lower flue, and escaping from  
the upper, in the manner described.

RENSELAER D. GRANGER.

Witnesses:

THOS. P. JONES,  
WASH. PEALE.