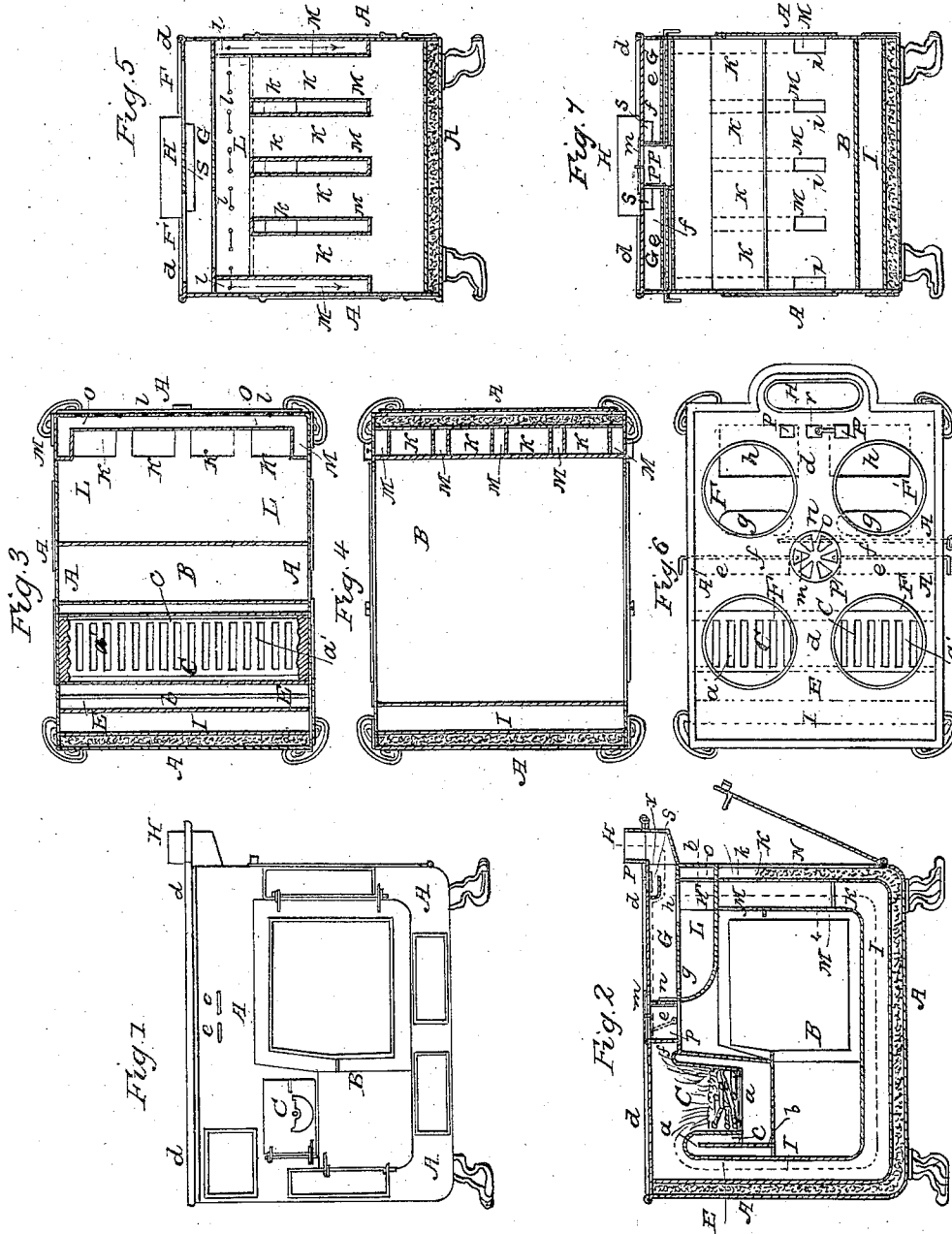


J. PEARSON, Jr.
Cooking Stove.

No. 21,900.

Patented Oct. 26, 1858.



UNITED STATES PATENT OFFICE.

JOHN PEARSON, JR., OF NEWBURYPORT, MASSACHUSETTS.

COOKING-STOVE.

Specification of Letters Patent No. 21,900, dated October 26, 1858.

To all whom it may concern:

Be it known that I, JOHN PEARSON, JR., of Newburyport, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Cooking-Stoves; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, denotes a side elevation of the said stove; Fig. 2, a longitudinal, vertical and central section; Fig. 3, a horizontal section taken through the grate, *a'*, of the fire-place; Fig. 4, a horizontal section taken through the openings for leading hot air into the oven; Fig. 5, a vertical and transverse section of the air passages in rear of the oven. Fig. 6, is a top view of the stove.

The nature of my invention or improvement consists as follows: 1st, in a combination and arrangement of smoke flues carried about the oven and air passages or flues arranged against the smoke flues so as to absorb the heat radiated therefrom and conduct it into the oven. Next, in the arrangement by which the fireplace back is made to receive air, heat the same and conduct it into the oven. Next, in a peculiar air guard applied in the upper smoke flue and with respect to an air register and the discharge pipe as hereinafter described.

In the said drawings, A, denotes the outer case of the stove lined with plaster of Paris or other suitable material and having an arch, B, a fire place or fire box, C, and an ash-pit disposed within it as shown in the drawings.

In front of the fireplace is what may be termed a hollow back E, which has an arched top *a*, and by means of a passage, *b*, leading from below the arched top communicates directly with the interior of the oven. The said hollow back, E, has an opening, *c*, at one end out of one side of the stove as shown in Fig. 3, the same being to enable atmospheric air to pass into the hollow back and after becoming heated therein to descend through the passage *b*, and enter the oven. The fire-place is to be supplied with fuel through the front boiler openings F, F, arranged directly over it and in the top plate, *d*, of the stove, other boiler openings F', F', being arranged in the said top plate as shown in the drawings. The grate is shown at *a'*.

Fig. 7, is a vertical and transverse section

taken through the dampers of the fire place, and upper smoke flue, such dampers being exhibited at *e, e*, as applied to the passages, *f, f*, of communication between the fire place and the upper smoke flue, G, arranged directly underneath the front boiler openings, F', F', as shown in the drawings, a discharge flue H, being led out of said upper smoke flue. When the dampers, are open, the smoke from the fire place will pass off through the passages, *f, f*, and into the upper smoke flue without going around the oven, but when the dampers are closed, the smoke and heated volatile products of combustion from the fire place will be made to pass over the arched top, *a*, thence downward into a flue I, arranged along the front of the oven and continuing underneath the bottom thereof and opening into a series of vertical flues, K, K, K, applied to the rear end of the oven and made to open into a flue space, L, disposed on the top of the oven and by means of suitable passages *g, h*, made to open directly into the smoke flue, G.

Air passages or flues M, M, are placed between the vertical flues K, K, as shown in the drawings. Each of said air passages M, opens at its lower end by an orifice, *i*, directly into the oven, while at its upper end and by an orifice, *k*, it communicates with a vertical air space, N, arranged as shown in the drawings. The said air space N, at its upper end opens into an air space O, arranged against the outer surface of the smoke flue, L, and having one of more openings, *l*, disposed in its upper part, such openings being for the reception of air which when the stove is in operation will pass through the space O, and against the smoke flue, L, thence into the air space, N, thence down the passages M, M, and into the oven. Such air during its passage receives radiated heat and finally discharges the same into the oven for the purpose of facilitating the operation of baking therein.

By my said arrangement, it will be perceived that the oven not only receives heat from the flue L, but from air heated and led into it in manner described both from the air space about the flues of the oven as well as that in the fire place back.

A pipe, P, extends out of the top of the oven, and up to or through the top plate of the stove and is there provided with a register *m*. This pipe also has an opening *n*, through its front side, such opening being

furnished with a slide valve, *o*. By means of the pipe, *P*, the register, *m*, the opening, *n*, and the valve, *o*, thereof, the heated air of the oven may be either discharged into the room in which the stove may be situated, or caused to pass into the upper smoke flue, *G*, as occasion may require. Furthermore, the top plate of the stove near the discharge flue, *H*, is furnished with a series of openings, *p, p, p*, and a sliding valve, *r*, adapted to the said openings, a bent plate or air guard, *s*, being extended from the top plate of the stove and with respect to the openings *p, p*, as shown in Fig. 2. The said air guard operates to prevent the smoke from passing out of the openings, *p, p*, and insures the passage of air into the same and the discharge flue, when such may be necessary in order to facilitate the draft of the flues.

20 Having thus described my improved stove, I would remark, that what I claim therein is as follows,

1. I claim the combination and arrange-

ment of the hollow back, *E*, of the fire place, with the oven, *B*, the fire place, *C*, and the flue, *I*, whereby the heat of the fire place and the said flue is made to warm the air which passes into the hollow back such air being subsequently discharged into the oven as described.

2. I also claim the combination and arrangement of the smoke flues, *I, K, K, K*, and the air flues, *O, N, M, M*, the whole being disposed with respect to the oven essentially as hereinbefore described.

3. I also claim the air guard, *s*, as arranged on the upper smoke flue and with respect to the air register and discharge pipe thereof substantially in manner as specified.

In testimony whereof I have hereunto set my signature.

JOHN PEARSON, JR.

Witnesses:

A. O. ORDWAY,
NATHE PIERCE.