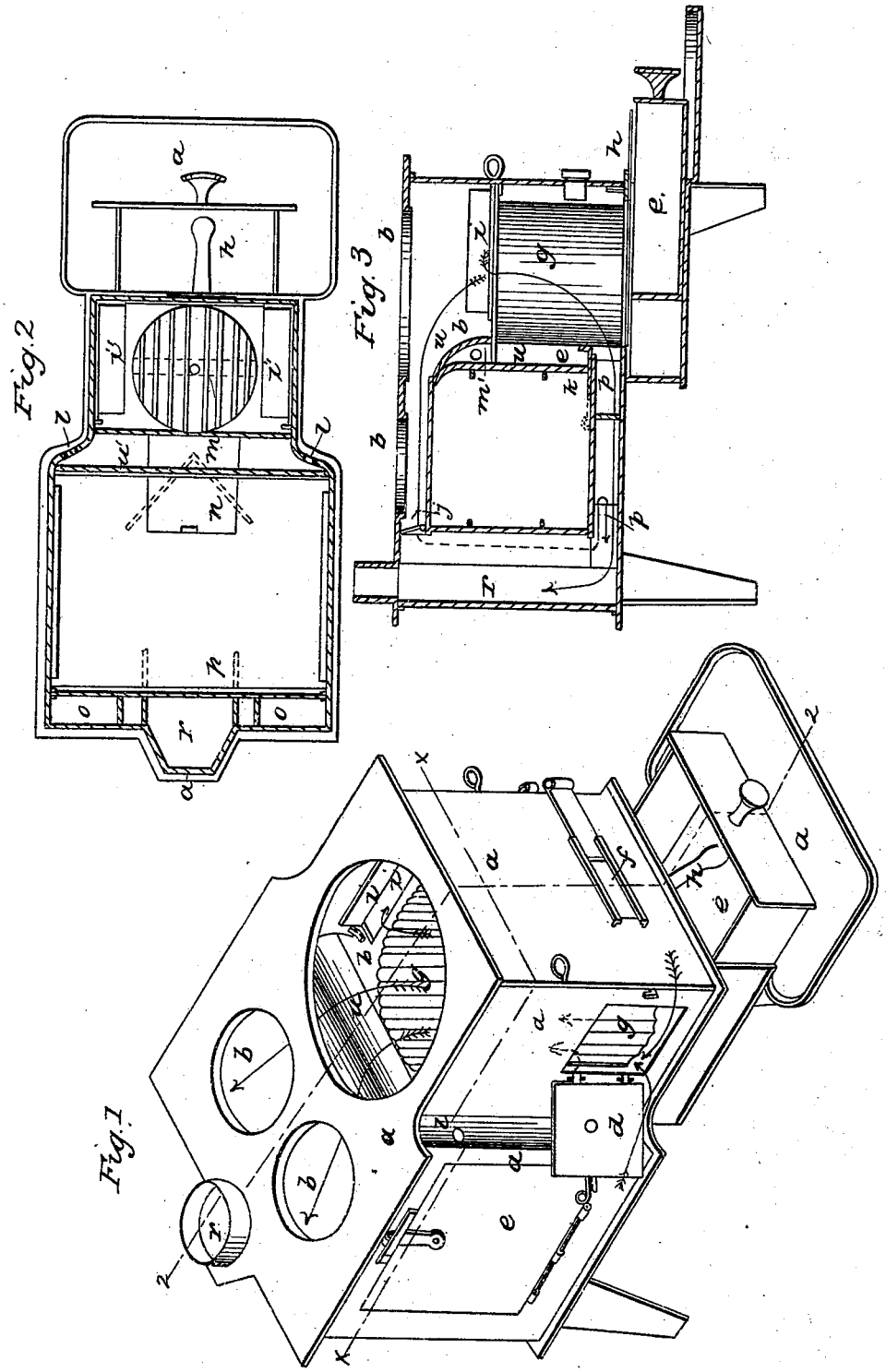
E. L. EVANS.

Cooking Stove.

No. 6,061. Patented Jan'y 30, 1849.



UNITED STATES PATENT OFFICE.

E. L. EVANS, OF MOUNT HOLLY, NEW JERSEY.

COOKING-STOVE.

Specification of Letters Patent No. 6,061, dated January 30, 1849.

To all whom it may concern:

Be it known that I, EVAN LEWIS EVANS, of Mount Holly, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Stoves, which I denominate the "New Jersey Air-Tight Cooking-Stove," and of which the following is a full and exact description, reference being had to the annexed drawings of the same, making part of this specification, in which—

Figure 1 is an isometrical perspective view, Fig. 2 is a horizontal section through the line 11 of Fig. 1 and Fig. 3 is a vertical section through the line 22 of Fig. 1.

The same letters indicate the same parts in all the figures.

The nature of my invention and improvement consists in a peculiar arrangement of the flues, air-chambers, dampers, and doors, whereby the oven may be heated or cooled, the draft of the fire increased or diminished, and the heat radiated and diffused, by means of currents of air, throughout the apartment in which the stove is placed to a greater or less extent, and with greater ease and certainty than the same has heretofore been done.

In the accompanying drawings *a* are the outside plates of the stove, *b* apertures in which to place culinary vessels *c* the doors of the oven, *d* the doors of the hot air chamber surrounding the fire cylinder which when opened permit the heat from the cylinder to radiate and the hot air to pass out into the room the dampers *i'* being closed and the current flowing upward in the direction indicated by the dotted arrows. The opening of these doors also admits the cold air into the flues to surround and cool the oven the current flowing in at the bottom of the doorway as shown by the black arrow, *e* the ash drawer, *f* an aperture entering the side of the fire cylinder, three inches more or less, above the grate to supply oxygen plentifully to the gaseous products resulting from the combustion of the fuel whereby the flame and heat are greatly increased, and a great saving of fuel effected for it is found that in passing through the fuel the air is deoxidated and inflammable gases evolved faster than oxygen is supplied to ignite them, unless some auxiliary means of supplying air, equivalent to the aperture *f*, be provided; this aperture is supplied with a sliding register to close it when necessary, *g* the fire cylinder, is made in the usual way, and has a grate placed beneath it to support the fuel with a projecting handle *h* to shake down the ashes, *i i* are diving flues provided with dampers *i' i'* to close them when it is required to direct all the heat over the oven to the chimney, but to heat the oven uniformly and evenly the dampers *i' i'* are opened, and the damper *j* on the top of the oven is closed, when the heat will pass in about equal quantities above and below the oven the upper current being indicated by the blue and the under current by the red lines and arrows. If it is required to direct the heat against the culinary vessels placed upon the stove, the damper *j* is opened while the dampers *i' i'* remain closed.

To retard the consumption of the fuel and at the same time thrown the heat out into the room the doors *d d* and the dampers *i' i'* are thrown open and the damper *j* closed this last operation will also cool off the oven by bringing a stream of cold air into contact with it. To heat the oven rapidly the damper *k* is shoved forward into the position seen in Fig. 3 when the air coming in at the apertures *l* passes through the chamber *m'* and down the flue *m* where it is heated by contact with the fire cylinder and then passes through the aperture *x* into the oven—this communication of the hot air chamber with the oven furnishes a ready means of conveying away the moisture driven off by heat from the food being cooked: when the damper *k* is drawn back to close the communication of the hot air flue with the oven, the hot air passes around beneath the oven, preventing the front plate from being unduly heated and tending to maintain the bottom at an equable temperature. The hot air flue is bounded by the front plate of the oven, the curved plate *u*, the horizontal plate *u'*, the vertical plate u^2, and the fire cylinder *g*. The damper *k* is a flat plate with its front edge turned up at right angles and a loop or knob on its rear edge to move it by. The oblique plates *n* placed upon the bottom plate in the flue cause the currents of heated air to pass beneath the ends of the oven on their passage to the chimney this arrangement prevents the oven from being heated more in the middle than at the ends. The current of heat passing over the oven dives down the flues *o o* and passes beneath the oven around the plates *p p* into the chimney *r*.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The arrangement substantially as herein described of the damper *i'* the flues *i* and the doors *d d* for the purpose of cooling the oven and heating the apartment in which the stove is placed by promoting the radiation of heat and the circulation of hot air.

2. I also claim the arrangement of the damper *k* by which the hot air in the flue *m* may be directed into, or around the oven.

In testimony whereof I have hereunto signed my name this third day of May 1848.

EVAN LEWIS EVANS.

Witnesses:
P. H. WATSON,
D. W. DAVIS.