J. R. SMITH.

Cooking Stove.

No. 633. Patented March 10, 1838.

FIG. 3.

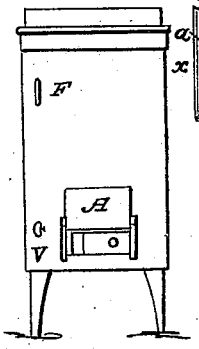


FIG. 2.

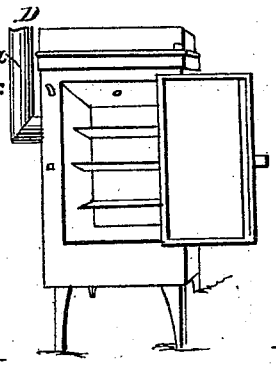


FIG. 1.

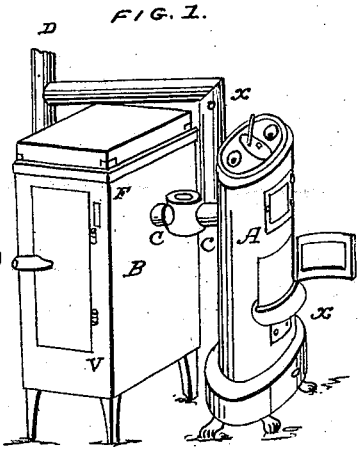


FIG. 4.

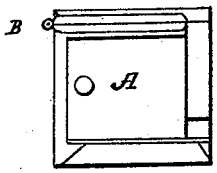


FIG. 6.

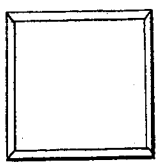


FIG. 5.

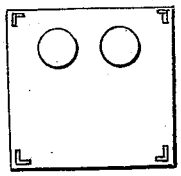
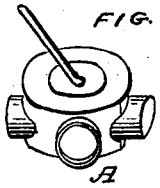


FIG. 7.



UNITED STATES PATENT OFFICE.

JNO. R. SMITH, OF NEW HAVEN, CONNECTICUT.

COOKING-STOVE AND OVEN.

Specification of Letters Patent No. 633, dated March 10, 1838.

To all whom it may concern:

Be it known that I, JOHN R. SMITH, of New Haven, in the county of New Haven, in the State of Connecticut, have invented a new and useful Cooking-Stove and Oven Upon an Improved Plan, Calculated to Roast, Boil, and Bake at the Same Time or Separately.

The object of my invention, is to do much, with great convenience and little expense of fuel by a stove well constructed and adapted to the uses for which it is intended.

My stove with its appendages is a combination of known principles applied to use, in a new form well calculated to produce the intended results. While with a single fire of coal or wood in this stove, it warms the room, it will roast in front of the grate and give heat to six boilers and to an oven for baking, at the same time or to either of them separately.

To illustrate my invention and to enable others skilled in the art, to make and use the same I refer to the drawings accompanying this specification as part thereof.

No. 1 of the drawings exhibits the stove and oven combined, of a medium size for ordinary use. A represents the stove made of sheet or cast iron, standing on legs 2 or 3 inches high, supporting the base of an oval shape, which forms an ash pit about 3 inches deep. On this base rests the body of the stove of the same oval shape (which shape I prefer) about 16 inches wide, 8 deep and 30 high. The chamber of combustion is lined with fire brick, has a grate in front and on the bottom with a draw bar and other usual appendages, and is calculated for a coal fire, but may be used with wood. In the top covering are orifices for 3 boilers as seen in the drawing. In front of the grate as seen at *x* I place a hearth or platform 5 or 6 inches deep and may be more, to support the roaster. This hearth may be flat, or incline to the center with an opening, thereby the better to discharge the droppings from the grate, into the ash pit, by the draft of the blower. The oven as seen No. 1, B, is made separate, is placed near the stove and is connected with it by the pipe C, C, or other proper connecting pipe or pipes. This oven is of peculiar construction, being made of sheet-iron, with a double case, or the outward case may be wholly or in part of cast iron, leaving a space between the plates, like Gould's oven, but for a different purpose and use. I make the oven for ordinary use in the clear 14 inches wide 18 inches deep and 16 inches high, within the inner case, and is divided by 3 or more movable shelves, at equal distances between the bottom and top, as seen in No. 2, and is surrounded on the top, back and sides by a space of 2 inches and under the bottom of four inches, between the inner and outer plates, and is closed by a double plate door, forming a space of about one inch deep, over the surface of the door, between the plates, the whole oven resting on legs about ten inches high. On experiment it is found that greater uniformity in the heat of the oven may be obtained by enlarging the space between the plates on the side opposite to the connecting pipes, to four inches deep, and dividing the same lengthwise by a plate extending from the bottom to within 2 inches of the top, thus forming two channels, each 2 inches deep, and thereby causing the fumes to rise in the channel next the oven and passing over the division plate, to be carried off, by the discharging passes near the bottom. This alteration is not exhibited in the model and is here stated in anticipation of any claim therefor as an improvement.

On the back side of the oven in the inclosing plate I make a sliding door as seen in No. 3, A. This gives access to the space between the plates and under the oven to clean them when foul.

No. 4 exhibits the inner top plate of the oven showing at A an orifice about one inch in diameter (to be governed or closed by a slide) to let off steam or vapor from the oven when required. This figure also shows the spaces between the plates around the oven and at T^3 a valve to regulate the heat. No. 5 exhibits the top of the outer case, with 2 orifices for boilers when required. No. 6 a top cover.

The stove and oven standing about twelve inches apart are connected by two or more pipes or by the single pipe C, C, which proceeding from the back of the stove enters a circular chamber about 8 inches in diameter, as better seen in No. 7, and from the opposite side of the chamber a pipe passes through the outer plate and opens into the space between the outer and inner plates of the oven. To prevent a burning heat from the connecting pipe, or pipes striking the inner side plate of the oven, I guard it, by

an intervening air chamber directly opposite the mouth of the pipe and within the space between the plates. This chamber is about half an inch deep and extends across the side of the oven and is open at each end as seen by the openings at F in Nos. 1, and 3, and in width from the top of the oven extends below the mouth of the pipe or pipes.

The chamber of the connecting pipe as seen in No. 7 has an orifice on the top for a boiler, and an orifice at A, on the back side, to receive a conducting pipe to carry off the fumes from the stove, when shut off from the oven. This pipe passes over the oven and enters the discharging pipe rising from the opposite side of the oven, as seen Nos. 1 and 2, D, D. These pipes are furnished with dampers or valves as seen at No. 1×, and No. 2×.

The operation of this machine is as follows: The fire being kindled in the grate, with the conducting pipes open; the valve of the conducting pipe may then be closed, and the fumes and heat from the chamber of combustion will pass through the conducting pipes, into the space between the plates of the oven, diffusing the heat under the boiler and through the whole space around the oven till carried off by the discharging pipe No. 2, D. The heat of the oven is regulated by the dampers or valves in the space around it, as seen at V, Nos. 1 and 3 and in No. 4, B, and in the pipes as above mentioned—and may be, shut off wholly or in part from the oven and discharged through the pipes at pleasure.

What I claim as my invention, and for which I solicit Letters Patent is—

The manner of constructing and combining with a stove of any suitable kind, an oven, formed and operating substantially in the manner set forth as above.

JOHN R. SMITH.

Witnesses:

SIMEON BALDWIN,

ROGER S. BALDWIN.