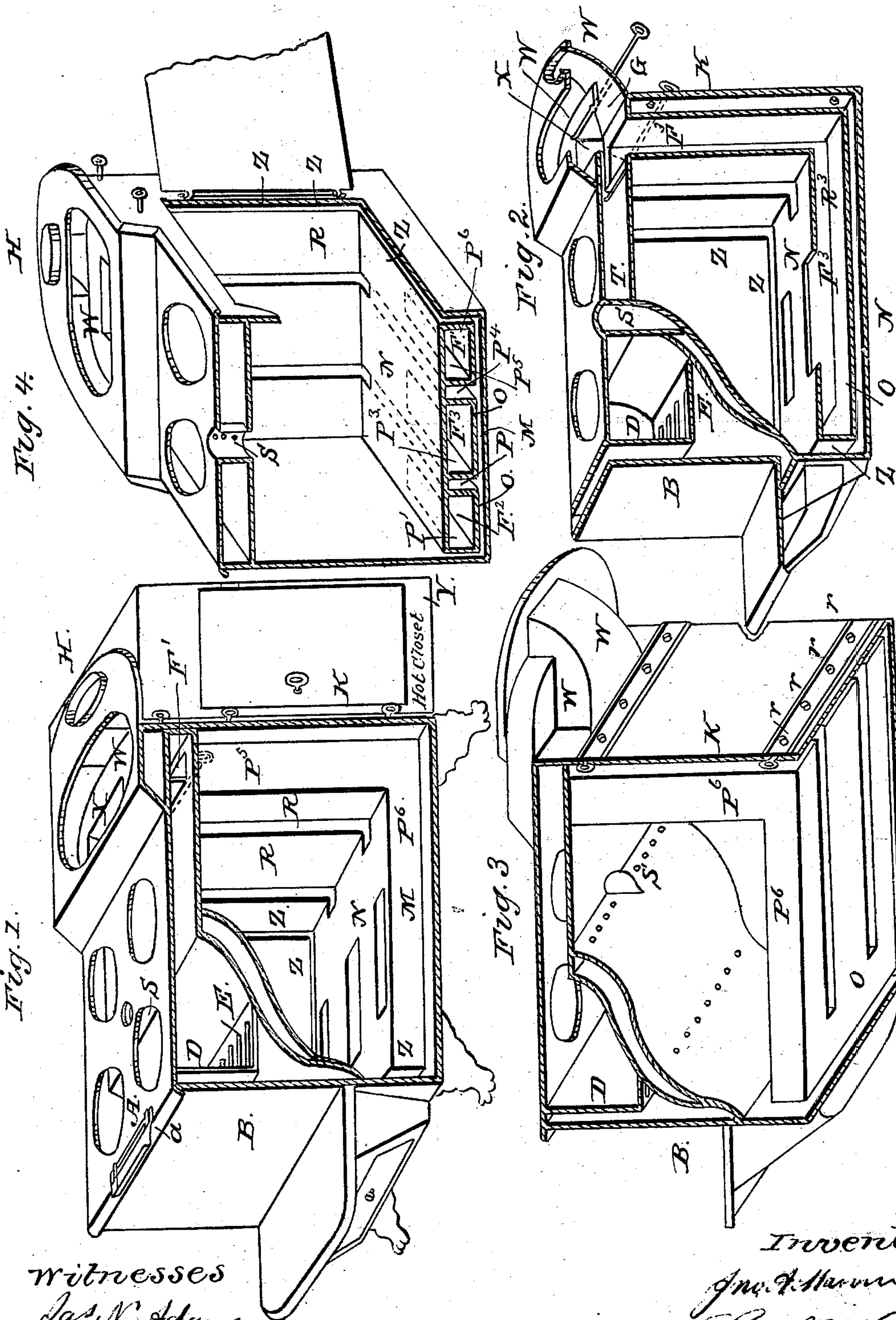


MARVIN & VOSE.

Cooking Stove.

No. 88,313.

Patented March 30, 1869.



Witnesses
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Letters Patent No. 88,313, dated March 30, 1869.

IMPROVEMENT IN COOKING-STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JOHN A. MARVIN and SAMUEL D. VOSE, of the city and county of Milwaukee, and State of Wisconsin, have invented a new and improved Mode of Constructing a Cooking-Stove; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Similar letters refer to similar parts.

Figure 1 is a perspective view of the stove, with the whole of one side removed, the hot closet being attached.

Figure 2 is a perspective view of one-half of the stove, made by a vertical longitudinal central section.

Figure 3 is a perspective view of the stove, lying on one side, with the bottom and one side removed.

Figure 4 is a perspective view of the rear of the stove, made by a transverse central section.

The improvement invented consists in the manner of admitting the draught to the fire, the manner of constructing the flues and air-chambers, for circulating the heated air, in the manner of ventilating the oven, in the manner of introducing hot air from the oven to the hot closet, and in the arrangement of the reservoir-flue and damper.

The draught to the fire is supplied by an aperture in the top of the stove—aperture A, damper a.

This aperture opens directly into a space formed by the front of the stove B, and the front plate of the fire-box D.

The advantages of this method are herewith described.

The air falls through the aperture, unobstructed by any angles or corners, and falls, by a natural momentum, into the rarefied space. The air is also heated in its passage through this space, aiding combustion. The air passes in a broad current, diffused uniformly under the whole surface of the grate E, promoting a strong and even fire.

The fire-flues, F¹ F², descend the back of the stove, at the right and left, revert along the bottom of the oven to the front, uniting and returning, in the central flue F³, to the pipe-hole H.

These flues are suspended, leaving a hot-air chamber between the back flues and the back of the stove, K, and the bottom flues and the bottom of the stove, M, all the fire-flues around the oven being practically continuous rectangular pipes.

These flues are formed horizontally, by using the bottom oven-plate, N, as the top surface, the bottom flue-plate, O, as the bottom surface, and the upright partition-plates, P¹²³⁴⁵⁶, as dividing, or side-surfaces.

These flues are formed vertically in the back, in a

similar manner, being continuations of the horizontal flues.

The bottom oven-plate, N, is perforated, or slotted along the front and sides, and the back oven-plate, R, at the sides.

The novelty and usefulness of this construction of the flues, secure important advantages.

The surface of the flues is greatly augmented, affording an unusual amount of radiation.

Both the bottom and back flues are entirely protected from exposure to any outer cold air, the bottom, M, and the back, K, being permanent jackets, and forming proper parts of the stove.

The radiation is not only increased by the enlarged surface of the flues, but is greatly increased in effectiveness, by the circulation insured by means of the slots Z Z Z, the air of the oven absorbing more heat when in motion over the hot flues than when quiet.

An entirely new advantage is secured by making these slots at the outer edges of the oven, next the doors and front, where no direct heat can be otherwise applied, the hot currents, passing at these points, answering the purpose of flues, by forming a hot stratum at the otherwise cold points.

The circulation of hot air in the oven, thus produced, is so strong and active that a perfect equalization of heat is obtained.

The ventilation of the oven is effected by making the top support, S, hollow, making a passage, regulated by a damper, from the oven into the room, or by small holes in the rear, as at T, into the flue.

The hot closet, Y, is made a useful oven, with a thorough circulation, or a chamber where the heat may be increased or diminished at pleasure, by tapping the heat of the oven through the outlets V V V, in the top and bottom of the plate K, which outlets are controlled by dampers, this device, growing out of the novel arrangement of the flues, being new and advantageous.

The improved reservoir-flue is made by elevating the rear part of the top of the stove, and inserting an irregularly-shaped plate, W, formed with a depressed throat, for the flue-passage to the pipe-hole.

This plate W is provided with an opening and damper, X, by means of which the heat of the fire may be thrown on to the reservoir, by opening the damper X, which at the same time closes the other opening, G, through the throat-depression.

By a reverse use of the damper X, the heat of the fire is wholly cut off from the reservoir. The evaporation of water, and moisture in the room, may thus be obviated when desirable.

What we claim as our invention, and desire to secure by Letters Patent of the United States, we hereby set forth:

1. We claim the draught-opening A, in the top of the stove, when operating as described.

2. We claim the perforations, or slots Z Z Z, at the sides and front of the oven, for circulating the heated air, as set forth.

3. We claim the combination of the plates N and O with the partition-plates P, making the bottom flues, and the corresponding plates, making the back flues,

when suspended for the purposes and in the manner described.

4. We claim the reservoir-flue, formed by plate W, with opening and damper X, as described.

Witnesses:

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