

COOKING-STOVE.

No. 176,992.

Patented May 2, 1876.

FIG. 1.

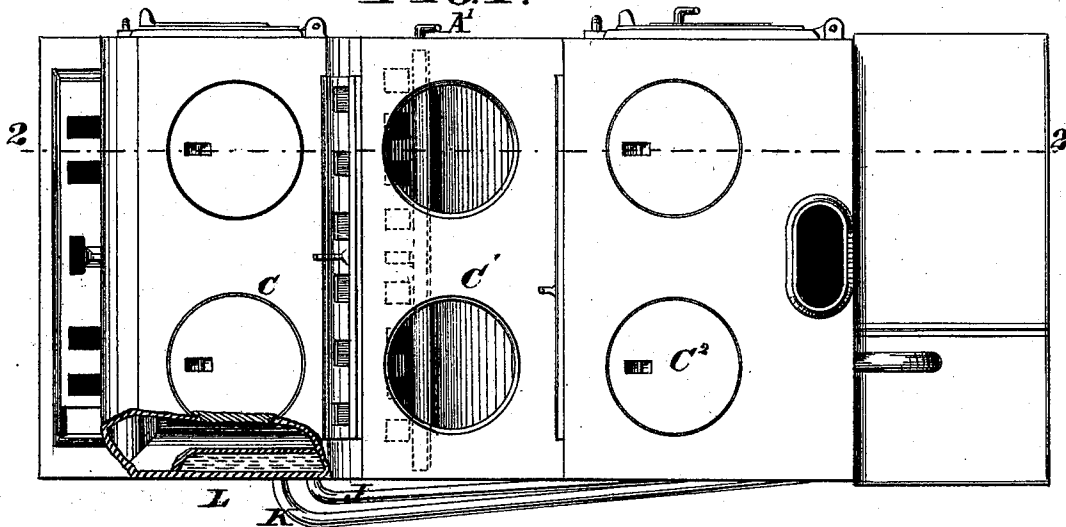
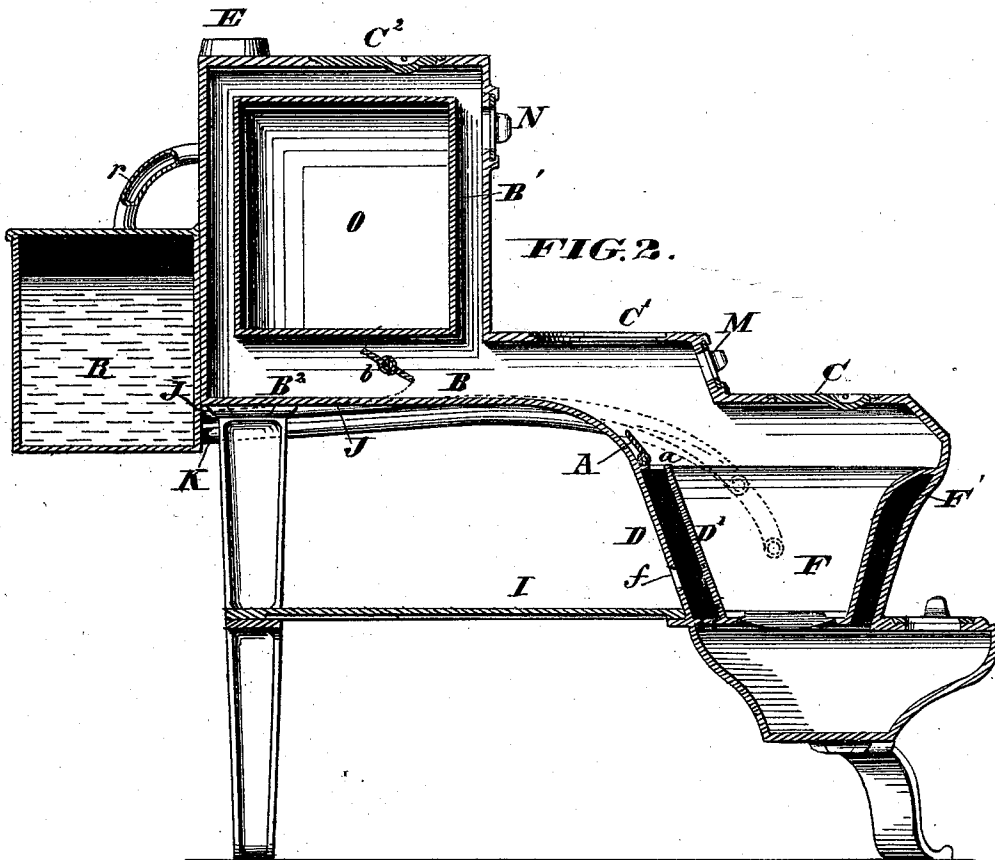


FIG. 2.



WITNESSES.

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INVENTOR

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UNITED STATES PATENT OFFICE.

GEORGE N. PALMER, OF ELMIRA, NEW YORK, ASSIGNOR TO SUSAN M. PALMER, OF SAME PLACE.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. **176,992**, dated May 2, 1876; application filed February 19, 1876.

To all whom it may concern:

Be it known that I, GEORGE N. PALMER, of Elmira, in the county of Chemung and State of New York, have invented a certain new and useful Improvement in Cooking-Stoves, of which the following is a specification:

This invention relates to what are known as "elevated-oven stoves," and consists, primarily, in a construction by which the four main boiling-holes are evenly exposed to the heat, two additional pot-holes being provided over the elevated oven, which also can receive the full effect of the heated gases when desired. The invention further consists in the provision, in an elevated-oven stove, of a device for admitting air, to assist the combustion of the gas, at a point between the first and second pair of boiling-holes. The invention further consists in a device for admitting air between the back plates of the fire-box and delivering it underneath the flue, as hereinafter described. The invention further consists in devices for regulating the relative flow of gas above and below the oven in an elevated-oven stove. The invention further consists in a mode of combining a hot-water reservoir with an elevated-oven stove, and in a device for heating the water contained in said reservoir.

In the accompanying drawing, Figure 1 is a plan of a stove illustrating my invention, partly in section. Fig. 2 is a longitudinal section on the line 2 2, Fig. 1.

The fire-box F is formed of a double shell, as represented, with an intervening jacket or space, F', to which air is admitted through a horizontal range of openings, f, at the rear. The air is delivered in a heated state through apertures a at the rear of the fire-pot, guarded by a damper, A, which, in the present illustration, is hinged so as to turn up when the apertures are to be opened, and is operated by a crank-handle, A'. The admission of air between the back fire-plates D D' also effects the usual purpose of preventing the plate D' from warping, and in a more effective manner, owing to the active circulation which is produced. I is a warming-platform, occupying the space at the rear of the fire-box beneath the horizontal flue B. The first and second

pairs of boiling-holes C C' are placed on different levels, with a breast between them, in which is provided a damper, M, for admitting air to the throat of the flue in a direction opposite to that of the current of heated air admitted at a. These combined currents cause an effective combustion of the gas arising from bituminous coal. O represents the oven, which is heated by the flues B B' B², the rear continuation B² of the main horizontal flue being controlled by a damper, b, by the closing of which the products of combustion are caused to pass entirely through the front vertical flue B', and thus to produce their full effect on boiling-vessels placed in the holes C² above the oven. A damper, N, is provided to admit air to the vertical flue B' when it is necessary to check the fire. When the damper N is closed and the damper b opened, a uniform heat is produced in the oven O, the greater capacity of the horizontal flue B² counteracting the greater tendency of the gas to rise in the vertical flue B'. R is a water-reservoir, applied, as shown, at the back of the oven-flue, and heated by means of circulation-pipes J K, which communicate, respectively, with the upper and lower parts of a water-chamber, L, at the end of the fire-box. r represents a pipe for conveying surplus steam from the water-reservoir into the discharge-flue. E is a collar, to which the smoke-pipe is applied in customary manner.

My stove possesses great superiority over elevated-oven stoves as heretofore constructed. The top is set forward to such a degree that the four lower boiling-holes are exposed to a uniform heat from the fire. The oven is brought in close proximity to the fire, thus permitting the use of coal for baking purposes more effectively than in the common elevated-oven stoves. The construction also admits of the use of the damper M to supply air to consume gas at the rear of the fire-box, thus adapting the stove for burning soft coal in the most effective manner. The admission of heated air by the damper A beneath the current of gas from the fire, and in an opposite direction to the flow of air entering through the damper M, causes the complete and effective combustion of the gas. My stove is thus

rendered a perfect smoke-consumer, and hence any dust or soot accumulating in the flues is as readily removed as that from anthracite coal or from wood, the tenacious gummy matter commonly found in the soot of bituminous coal being entirely absent, owing to the combustion of this material.

My mode of combining the water-reservoir with the flue-plates of an elevated oven enables me, by the elevation of the reservoir above the level of the fire-pot, to provide an effective circulation of water to heat the reservoir.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination, with the three sets of boiling-holes $C^1 C^2$, on different levels, of the fire-box F , the horizontal and ascending flues surrounding the oven, and a damper, b , for regulating the flow of gases in said flues, substantially as set forth.

2. The combination, with the fire-pot F , of

the heating jacket F' surrounding said fire-pot, provided with a rear induction, f , near its lower part, and discharge apertures a guarded by a damper, A , at top, all as herein shown and described.

3. The combination, with the fire-box F , of the two dampers A and M , for admitting currents of air to the combustion-chamber in opposite directions, as and for the purposes set forth.

4. The combination of the horizontal flue B B^2 , vertical flue B^1 , and dampers b and N , for regulating the draft around the oven, as explained.

5. The combination of the reservoir R , applied at the rear of the oven-flue, the heater L at the end of the fire-box, and the circulation pipes $J K$, substantially as and for the purpose set forth.

GEO. N. PALMER.

Witnesses:

OCTAVIUS KNIGHT,
LE BLOND BURDETT.