2 Sheets—Sheet 1.

M. L. HORTON.

Cooking Stove.

No. 50,071. Patented Sept. 19, 1865.

Fig. 1

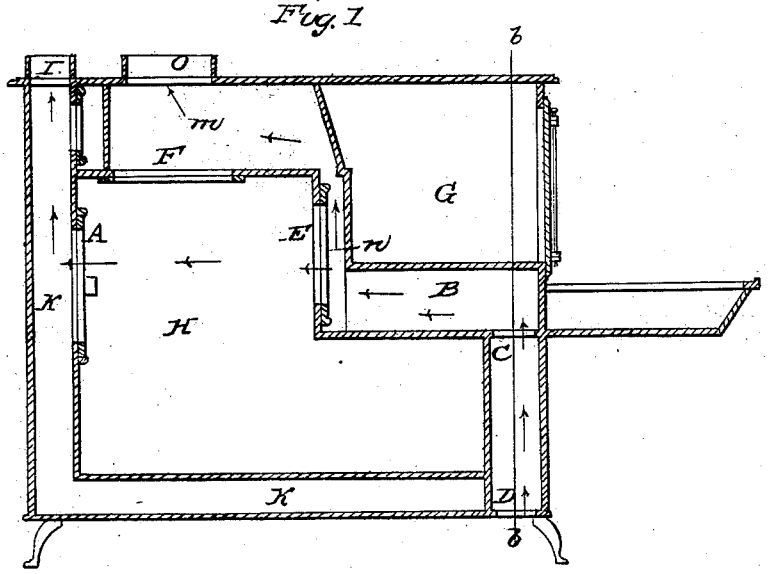
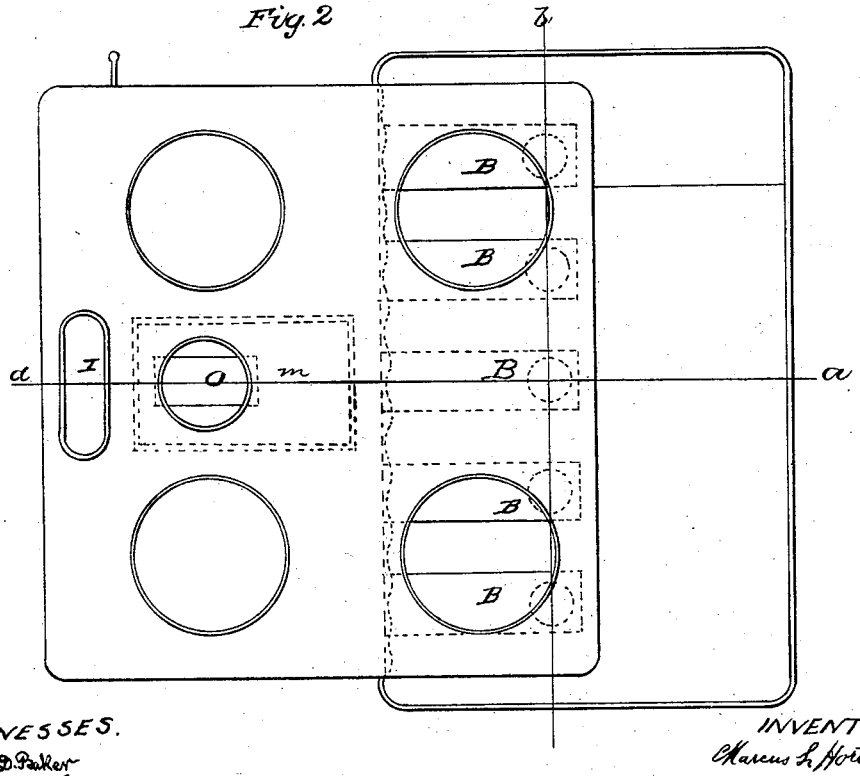


Fig. 2



WITNESSES.
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2 Sheets--Sheet 2.

M. L. HORTON.

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No. 50,071. Patented Sept. 19, 1865.

Fig. 3

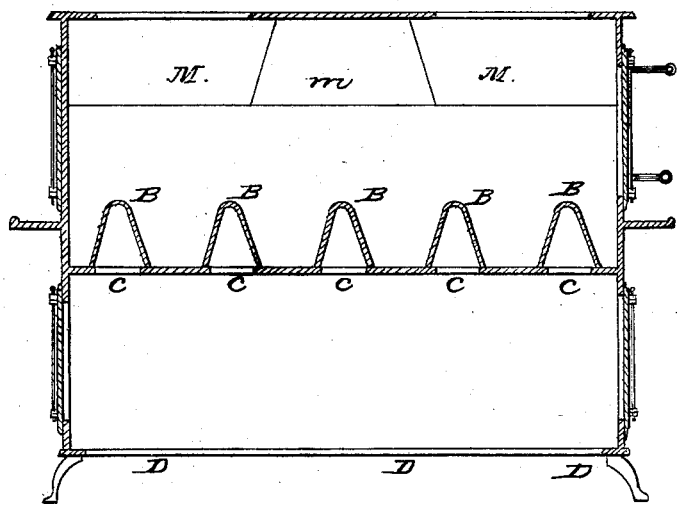
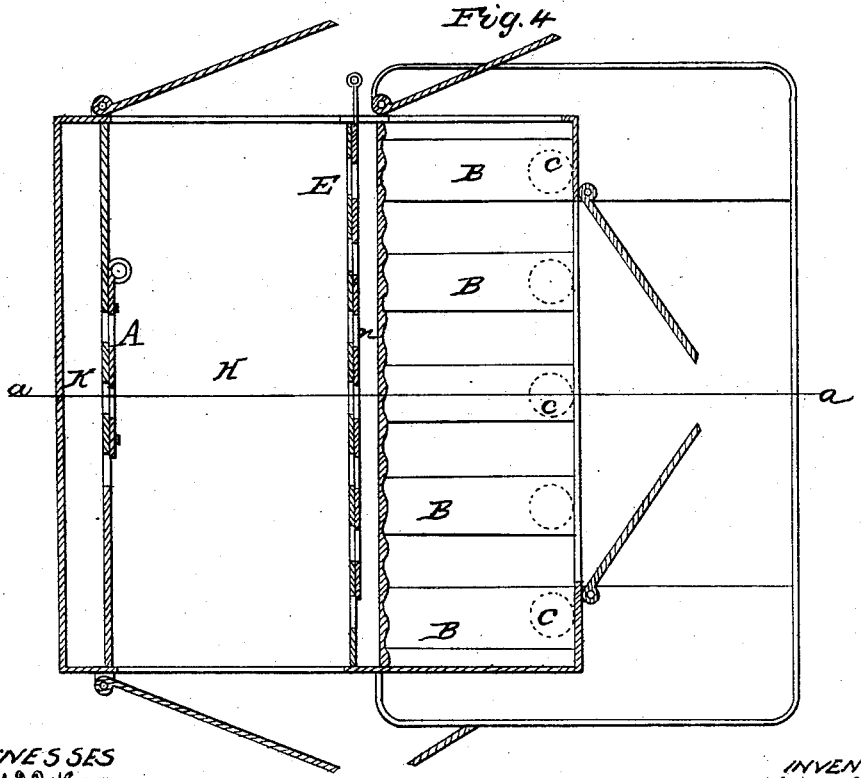


Fig. 4



WITNESSES
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UNITED STATES PATENT OFFICE.

MARCUS L. HORTON, OF CLAREMONT, NEW HAMPSHIRE, ASSIGNOR TO SIDNEY SMITH, OF GREENFIELD, MASSACHUSETTS.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. **50,071**, dated September 19, 1865.

To all whom it may concern:

Be it known that I, MARCUS L. HORTON, of Claremont, in the county of Sullivan and State of New Hampshire, have invented a new and Improved Mode of Conveying Air to and Ventilating the Low Oven of a Cooking-Stove; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing the low oven of a cooking-stove with apertures to allow moisture, smoke, and gas arising from baking to escape to the fire-flues, and air to escape to lower the temperature of the oven when too hot, which apertures may be partially or wholly closed by means of a register; and an opening on the under side of the stove to convey air to flues or hollow grate-bars under the fire-box, which opening admits of an enlarged oven by increasing its depth, and at the same time to take in air on a line as low as the base of the stove.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a longitudinal section of the stove through the line *a a*, Figs. 2 and 4. Fig. 2 is a plan view of the stove. Fig. 3 is a section through the stove on the lines *b b*, Figs. 1 and 2. Fig. 4 is a horizontal section. The arrows indicate the direction of the air-currents.

In Fig. 1, A represents the apertures in the back plate of the oven, and in Fig. 4 the apertures and register.

B in Figs. 3 and 4 are hollow grate-bars leading to the open hot-air space *n* in Figs. 1 and 4. C in Figs. 1, 3, and 4 are the openings into the grate-bars.

D in Figs. 1 and 3 is the space opening on the bottom of the stove and reaching up to the openings in the grate-bars.

E in Figs. 1 and 4 are the openings and register leading from hot-air space *n* to the oven.

F in Fig. 1 is the opening and register to hotter space *m*.

G in Fig. 1 is the fire-box.

H, Fig. 1, is the oven.

O, Fig. 1, is the pipe for conveying heated air from space *m* for warmth in the room or elsewhere.

M M, Fig. 3, and K K, Fig. 1, are fire-flues.

I, Fig. 1, is the smoke-pipe leading from fire-flues.

In the operation of my invention the general structure and operation of my stove is somewhat similar to other cooking-stoves of like class; but it differs from the manner of introducing air into the stove and in regulating and controlling it, and the uses made of the air when thus introduced and heated. The air is admitted from the room through the open space D, and it then passes into the grate-bars B, where it is heated, and then enters the space *n*. Then, by opening the register E, it is let into the oven for baking purposes; then, by opening the register A, into the fire-flue K, and then to smoke-pipe I, and thus escapes with the smoke and products of combustion; or, when the oven is not being used for baking purposes, the register A may be closed and the register F opened, when the heated air may escape into the room or be conveyed in pipes to other rooms to be heated, and the cooking-stove may thus be rendered much more efficient as a heater.

The amount of air desirable to be retained in the oven may be regulated by the registers E and A, or both combined. When E is closed the air passes directly to air-pipe O through spaces *n* and *m*. When E and A are both open the air passes more rapidly through the oven, and the draft through the fire-box G is diminished, so that the temperature in the oven H is lessened.

I am aware that a stove has been patented with grate-bars B, spaces *n* and *m*, registers E and F, opening O and *c c*, and their various connections, except what I now claim as different—viz., the open space D D, enabling me to enlarge the oven H, and to take in a volume of air as low as the bottom of the stove, and the apertures and register A combined, so that the oven can be ventilated during the process of baking, and the impurities of gas and smoke be carried into the smoke-pipe, and at the same time use the air in the space *n* and *m* for heating purposes without such impurities being combined with it.

Having thus fully described my invention and distinguished between what is old and the improvement, what I claim as new, and desire to secure by Letters Patent, is—

The open space D and apertures and register A, as arranged and in combination, operating as described, and for the purposes set forth.

MARCUS L. HORTON.

Witnesses:

EDWARD D. BAKER,

ISAAC N. ROSS.