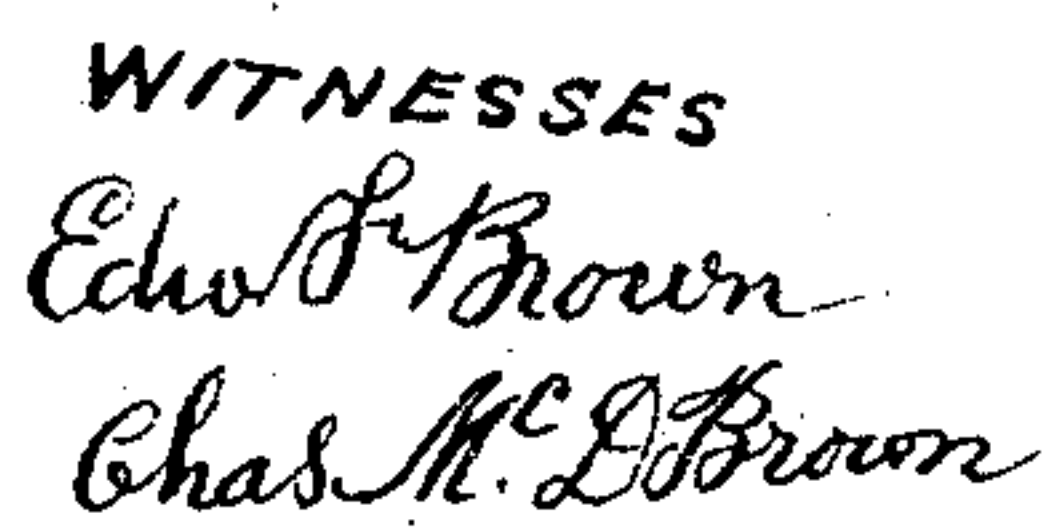


Cooking Stove.

Patented April 8, 1862.



INVENTOR:

Thos. S. Lambert

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IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 34,930, dated April 8, 1862.

To all whom it may concern:

Be it known that I, THOMAS S. LAMBERT, of Peekskill, Westchester county, New York State, have invented an Improvement in certain kinds of Cooking Apparatus; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings.

The nature of my improvement consists in providing for an equal distribution of heat under the bottom of ranges, stoves, or other cooking apparatus, where the current passes under the oven from one side and leaves the bottom at another at right angles to it; for heating the bottom of ovens more rapidly than is usual; for introducing air into the back part of the ash-pit when it is long and narrow, so as to give a good draft above it; for increasing and diminishing the size of the fire-box, both in breadth and length; for causing the air to pass through the oven when not used for cooking in such a way as most perfectly to heat it; for admitting the air from a jacket below the bottom within and around the sides of the stove or range, and for regulating the size and position of the flues on the top of the oven, in all of which respects economy and convenience are served.

To enable those properly skilled to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a perspective view of a stove or range in which the improvements are represented as combined. Fig. 2 represents a section of the same through the center at right angles to the front. Fig. 3 is a view of the bottom of the oven and the spaces upon two sides of it. Fig. 4 represents the grate-rest and damper-plate on the back part of the grate.

L, Fig. 3, represents one or more division-plates extending from the side of the oven-bottom to a central diagonal line, thereby spreading the heated air equally under the oven-bottom, without diminishing the size of the flue or causing any eddies, the central extremity of L being curved parabolically for the same purpose.

The dotted line M represents a continuation of the same division-plates.

O represents one or more corresponding division-plates through the flue at the side of

the oven, while P represents one or more division-plates extending up the flue at the back of the oven.

From the relative position of the fire-box and smoke-collar and the direction of the passages between them it will be appreciated that the distance traveled by the hot air in passing from each part of the fire-box to the smoke-collar is the same in one case nearly as in another. The effect upon the draft is evident.

In Fig. 2 the division-plates are represented in the right part of the back flue as not extending so far up as those do upon the left side. All these division-plates should be attached to the oven-plates, that they may give the heat they receive directly to the oven-walls.

A, Fig. 1, represents the bottom oven-plate as so formed that all the division-plates in the flue beneath can be lifted out at once and the flue readily cleaned.

C C, Fig. 1, represents a slide that admits, when open, a full supply of air under the whole length of the grate, and is divided into two parts, so that the back part may be open or shut at pleasure without reference to the front part of the slide.

D, Fig. 1, represents a means for increasing the draft under the back part of the fire-box when a side draft is not permissible. It reaches back only a part of the length of the ash-pit, and if made of reflecting material and placed sloping toward the oven will throw some heat against the lower and front part of the oven, which is the part of ovens most needing the heat. D may be made of any form—round, triangular, or square—and placed on either side or in the middle of the ash-pit.

x, Fig. 4, represents a grate-rest situated just below the slides C C, the spaces R permitting the air to pass from the open slides C C to the ash-pit. This side of the rest has so much width that the fire-plate behind the brick S, Fig. 2, may be moved upon the rest, and thus increase the width of the fire-box in one case and diminish it in the other, in the former the round holes in the rest furnishing additional air.

K represents a movable plate with corrugations fitting the top of the grate, but allowing it to be shaken, and with the closing of

the back slide C checking the draft in the back part of the fire-box.

H, Fig. 1, is a slide in the oven just above the rest, Fig. 4, in the side of which are openings to allow the air to pass up to the slide H, there being a fire-plate and its brick S, and a space also, between the oven-plate and the fire.

I, Fig. 2, represents a circular opening leading out of the upper back right corner of the oven through the back flue to the outside of the stove or range, being there furnished with a damper, so that if it and the slide H are open the air will pass through the outer open slide C under the fire-box through H and out at I.

T, Fig. 1, is a direct damper.

G, Fig. 1, is a damper composed of two pieces, which by nibs act upon each other, so that they may by the same handle be placed side by side or stretched to double the length seen, and can also be slid across to the front of the stove, thus in several ways conveniently modifying the flue over the oven.

F, Fig. 1, is a damper-handle with a simple joint, the two parts being flattened and by a rivet jointed. One part is attached to the damper, and the other is guided by a flange around its hole in the stove, so that two joints in it may be made without inconvenience in use, but with advantage.

E represents openings in the margin of the bottom, for the purpose of allowing the air to pass up into a jacket when applied.

x' represents a ledge and groove commencing on the hearth at the angle of the side and front of the stove or range, and curving out and back to the edge of the margin of the stove-bottom, which they follow along, extending round and curving into the opposite front angle of the sides of the stove-box, marked x'' . There are corresponding grooves and ledges at the under surface of the margin of the sides and back of the top of the stove, as seen in sectional view, Fig. 2, at x''' .

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

1. The application of one or more division-plates extending along [the flue under the oven from one side of its bottom to its central diagonal line, in all those cases in which the draft passes under the oven-bottom at one side and leaves it from another at right angles to the former, substantially as set forth.

2. The termination of the inner extremities of those division-plates at the central diagonal line by parabolic curves, substantially as set forth.

3. The continuation of these plates after they have curved, if they are continued along the flue under the oven till they reach the flue at the back of the oven, substantially as set forth.

4. The attachment of division-plates to the movable section of the bottom of the oven

in such a manner that when the section is raised the division-plates are removed and the flue easily cleaned, substantially as set forth.

5. The construction of a flue across the entire back of the oven and leading to the pipe-collar, after the products of combustion have traversed four sides of the oven, substantially as set forth.

6. The application of division-plates in the back flue, with graduated lengths to assist in equalizing the distances from different parts of the fire-box to the pipe-collar in the direction of the draft, substantially as set forth.

7. The application of the independent slides C C, or of one of them, with its back holes twice as far apart as its front ones, so as to control the draft in the front and back part of the fire-box, independently of each other or together, as may be desirable, substantially as set forth.

8. The application of the division-plate in the ash-pit for the purpose of supplying air to the back part of the fire-box, substantially as set forth.

9. The application of a wide-margined grate-rest, with perforations and a scalloped edge, or either of these devices, in combination with a movable fire-plate at the side of the fire-box, substantially as set forth.

10. The construction of the slide in the side of the oven above the grate-rest, substantially as set forth.

11. The construction of the damper-rod with one or more joints, substantially as set forth.

12. The construction of holes in the margin of the sides and back of the bottom, in combination with the dampers leading into and out of the oven, for the purpose of using the range as a "heater" when "jacketed," substantially as set forth.

13. The combination of the slides or slide C, or the division-plate D, with the perforated or scalloped grate-rest, the partial and movable grate-cover, and the movable fire-plate, substantially as set forth.

14. The combination of the draft dampers or damper, the dampers over the oven, and the division down the flue at the side of the oven, under its bottom, and up its back, substantially as set forth.

15. The combination of the dampers leading into the ash-pit, or either of them, and those leading into and out of the oven, with the holes in the sides of the margin of the bottom, substantially as set forth.

16. The combination of each and all the three classes of improvements and particulars mentioned in the immediately previous three claims in one stove, substantially as set forth.

T. S. LAMBERT.

Witnesses:

EDM. F. BROWN,

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