W. H. BARNES.

Cooking-Range.

No. 201,086. Patented March 12, 1878.

Fig. 1.

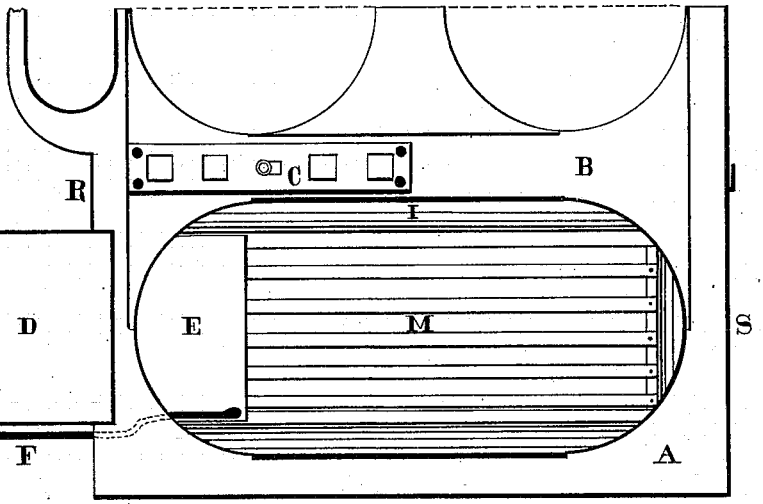

Fig. 3.

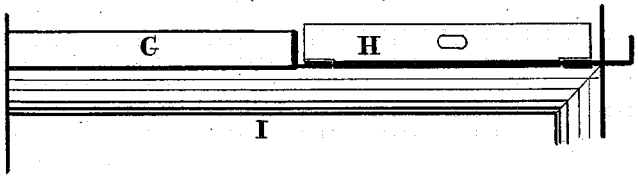

Fig. 2.

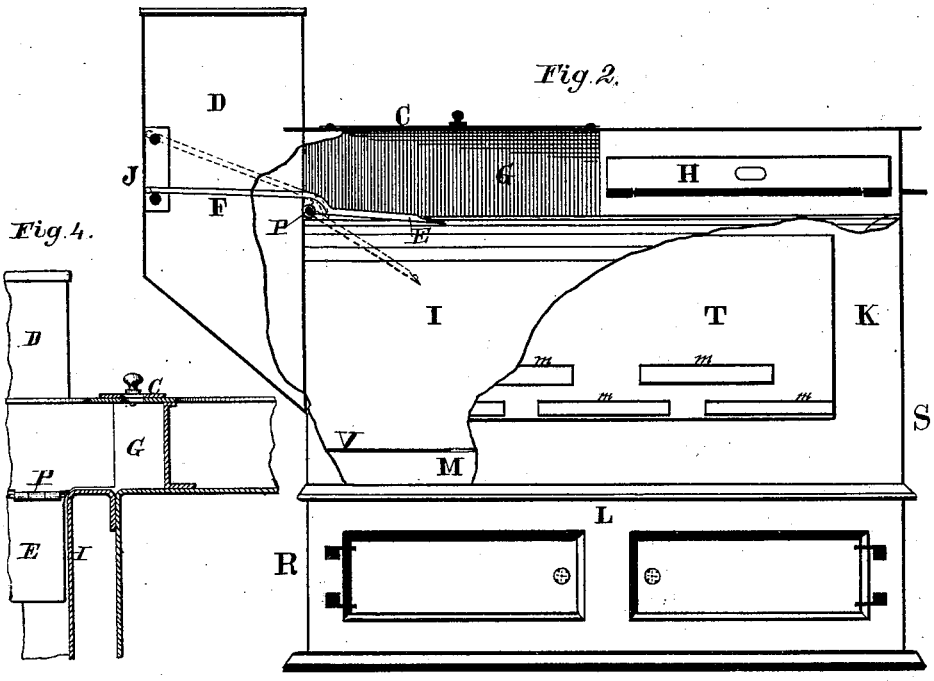

Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM H. BARNES, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN COOKING-RANGES.

Specification forming part of Letters Patent No. **201,086**, dated March 12, 1878; application filed November 1, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. BARNES, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Cooking-Ranges, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention.

The present invention relates to an improvement in ranges and stoves used for cooking purposes; and its nature, in brief, consists—

First, in an air-chamber above the top oven-plate, and between it and the long center-plate, and extending about half of the length of the fire-box, in combination with a damper placed in the throat of the other half of the fire-box, and extending from the air-chamber to the side plate of the stove. The inner end of the air-chamber forms a support for the inner end of the damper-rod, and an ordinary register in the long center plate admits air to the chamber.

Second, in a magazine or feeder placed wholly outside of the stove, and made to communicate with the fire-box by means of a stationary inclined bottom and an adjustable compress-plate, hinged so as to present a flat surface to the incoming coal, and operated by a suitable lever. By this means coal-screenings can be fed into the fire-box in a required quantity as readily as lump coal.

I am aware that slides or gates have been used to regulate the supply of coal, and that adjustable bottoms have been used for the same purpose. I therefore disclaim to have invented a cut-off, but confine myself to the construction, substantially as described.

Third, a magazine or feeder placed on the outside of the stove or range, and at the end of the fire-box, and combined with a protecting-plate placed at the end of the inclined bottom of the feeder and extending to the grate, to prevent the escape of unburned coal to the ash-pit.

Placed closely to the under side of the long center plate B, and to the top oven-plate, is a vertical plate, far enough back from the rear wall of the fire-box to form the back wall of an air-chamber or recess, G. To the inner end of this vertical plate is joined a plate at right angles, and its front edge comes about even with the back wall of the fire-box. Between this last-mentioned plate and the opposite end of the fire-box from the feeder D, is placed a damper, filling the draft-throat of the stove.

Air from register C enters chamber G, and comes in contact with the gases from the burning coal, and, by the more intense heat thereby generated, more nearly perfect combustion is attained, while at the same time the damper, when properly adjusted, prevents explosion.

In the drawings, Figure 1 is a top or plan view of the front part of a cooking-range embodying my improvements. Fig. 2 is a front sectional elevation of the same; Fig. 3, a plan view of the draft-chamber and damper and their relative positions to the fire-box. Fig. 4 is a perspective view of parts of my improvements.

K represents the front plate, and A the top plate, of an ordinary cooking-range. T is the front of the fire-box, and B the long center plate. R S are the two sides of the range. D represents a coal-feeder, attached to the exterior of the range either by being cast solid to, so as to come opposite to the fire-box, or by being cast separate and attached by bolts. The bottom of this feeder is inclined, as shown, and terminates on a plate, V, which prevents coal being fired closely to the feeder, as said plate prevents a draft at that place. Hinged to the inner part of this feeder, at P, is a compress-plate, E, which can be raised or lowered by means of a lever, F, so as to bear on the coal passing in from the feeder, and thus regulate the supply. Notches cut in the plate J serve to hold the lever F in a fixed position when adjusted.

The face-plate T of the fire-box I is provided with horizontal holes *m*, that a poker may sweep the grate M horizontally, and bring fresh coal from the feeder beneath the burning mass, or mix it with the burning coal.

I claim as new—

1. The single air-chamber G, formed above the top oven-plate, and between it and the long center, and having an open side, facing the fire-box, and coming even with the back wall thereof, and extending about one-half the length of said box, in combination with the damper H, placed at the end of the air-cham-

ber, and suitable register C, as and for the purpose set forth.

2. The feeder D, placed wholly exterior to the stove, and provided with an inclined stationary bottom, and combined with an adjustable compress-plate, E, placed above the incoming coal, and hinged so as to present its smooth flat surface thereto, and operated by the lever F, as and for the purpose set forth.

3. The feeder D, placed exterior to the range and at the end of the fire-box, in combination with the protecting-plate V, as specified.

WILLIAM H. BARNES.

Witnesses:
G. L. CHAPIN,
A. G. MOREY.