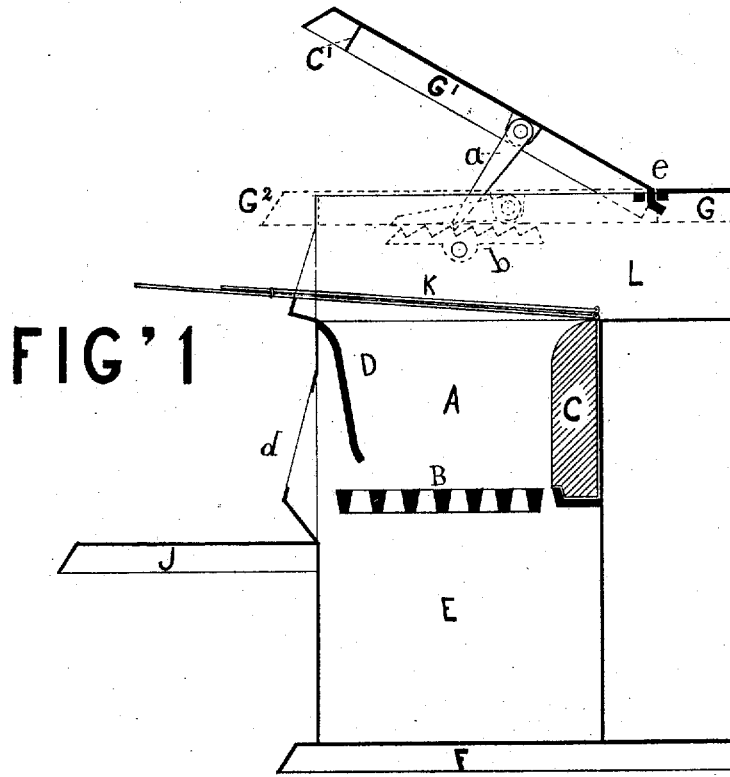


J. S. VAN BUREN & R. Z. LIDDLE.
COOKING-STOVE.

No. 190,648.

Patented May 8, 1877.



Witnesses;

A. J. Shippe
W. W. Knickerbocker

Inventors:

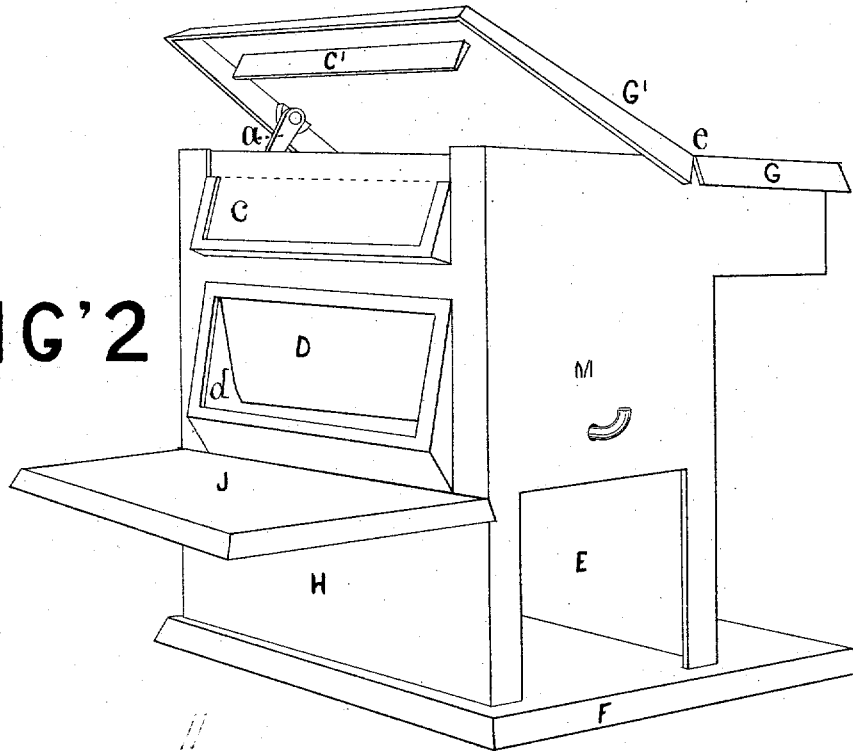
Jas. S. Van Buren
Robert Z. Liddle

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FIG'2



Witnesses;

A. J. Shipper
W. W. Knickerbocker

Inventors:

James S. Van Buren
Robert Z. Liddle

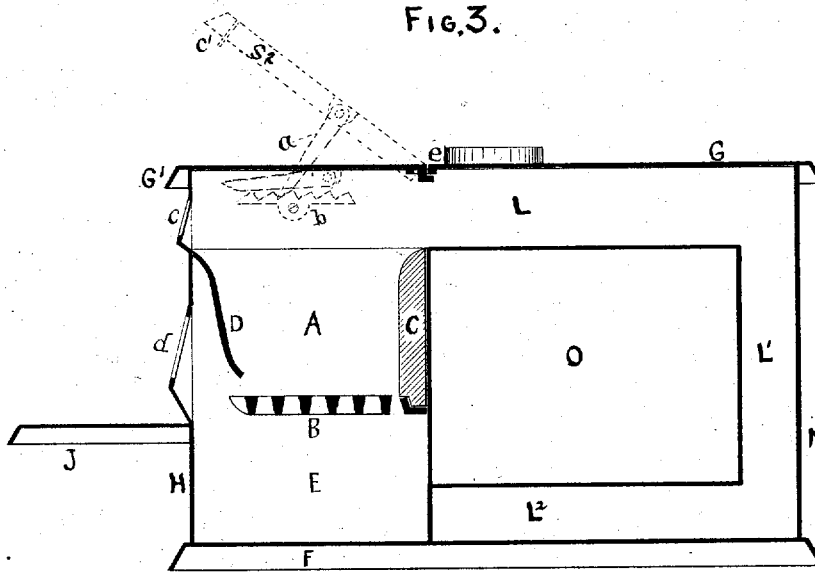
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FIG. 3.



Witnesses.

Wm. W. Kuebler
A. Judson Shippen

Inventors.

J. S. Van Buren
Robert Z. Liddle

UNITED STATES PATENT OFFICE.

JAFEW S. VAN BUREN, OF WEST TROY, AND ROBERT Z. LIDDLE, OF ALBANY, NEW YORK.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 190,648, dated May 8, 1877; application filed January 12, 1877.

To all whom it may concern:

Be it known that we, JAFEW S. VAN BUREN, of the village of West Troy, and ROBERT Z. LIDDLE, of the city of Albany, both in the county of Albany and State of New York, have invented certain Improvements in Cooking-Stoves and Ranges, of which the following is a specification:

Our invention relates to that portion of a cooking range or stove which embodies the boiler or top plate, which forms the top casing of the fire-box, the fire-box, and the smoke and gas flue leading therefrom; and consists, first, in so combining that portion of the boiler or top plate which forms the top of the fire-box with the remaining portion of the same that the former may be adjustable at pleasure, while the latter is made fast to the body of the range or stove, in the ordinary manner; second, in combining, with the adjustable portion of the boiler or top plate of a range or stove, a ratchet and pawl, or their known mechanical equivalents, in such manner that they may be employed to sustain the same in an elevated position; third, in combining, with the adjustable portion of the boiler or top plate, a portion of the wall of the stove or range, so that when the former is elevated it will carry with it the latter, and thus enlarge vertically the opening through and above said wall; fourth, in so combining the adjustable and fixed portions of the boiler or top plate with the fire-box and the smoke and gas flue leading therefrom that when the former is elevated the draft through the vertically-enlarged opening to the said flue will be greatly increased, thus preventing the escape of smoke and fumes into the apartment while the top surface of the fire is being used for broiling or other culinary operations.

Figure 1 is a vertical central section from front to rear of a cooking range or stove to which our improvements are applied; Fig. 2, an elevation in perspective of the same; Fig. 3, a vertical central section from front to rear of an entire cooking range or stove, showing oven and flues.

The dotted lines G^2 , Fig. 1, and S^2 , Fig. 3, represent the adjustable portion of the boiler or top plate—in the former in position common to cooking ranges and stoves, and as it appears

when not in use for broiling or other culinary operations, and in the latter elevated, showing our improvements.

H is the front, N the rear wall, and F the bottom plate, of the structure. G^1 is the adjustable, and G the ordinary fixed, portion of the boiler or top plate, the former being hinged or otherwise attached to the latter, as at *e*.

The fire-box A has a lining, C, of fire-brick or other suitable material, a fire-plate, D, and a grate or fire bed, B, beneath which is the ash-chamber E.

a is a pawl, which may be hinged or otherwise attached to the adjustable boiler or top plate G^1 , and arranged to co-operate with a ratchet, *b*, attached to the range or stove; or, if preferred, the pawl may be attached to the range or stove, and the ratchet to the adjustable boiler or top plate G^1 .

L, L^1 , and L^2 is the smoke and gas flue, extending from the fire-box along beneath the boiler or top plate over and around the oven O to the exit.

c, Fig. 3, is an opening, as heretofore provided in the front walls H of ranges and stoves, through which to insert a broiler. The vertical dimension of this opening is so contracted as to render it practically of little utility for culinary purposes.

c', Figs. 1 and 2, is the portion of the front wall H above the opening *c*, which, in this structure, is shown as attached to the adjustable boiler or top plate G^1 .

K, Fig. 1, is a broiler in position over the fire, within the vertically-enlarged opening *c*, as shown in full line, Fig. 2; *d*, the front fire-door opening, and J the front hearth.

The object of our invention is to provide in ranges and stoves a more perfect arrangement for broiling and other culinary operations.

Heretofore broiling has been done by inserting the broiler, through the openings in the boiler or top plate, over the fire, in which case, during the operation of broiling, the smoke and fumes are discharged into the apartments. Another method has been to insert the broiler in over the fire through an opening, as at *c*, in the front wall of the range or stove, and below the top plate G, so that the smoke and

fumes would be carried off into the top oven-flue L.

The objection to the former plan is the escape of smoke and fumes into the apartments, while in the latter the opening *c* through the front as well as the space over the fire is contracted in height, which prevents the cook from inspecting the process of broiling, except by drawing out the broiler whenever this is necessary.

By the use of our invention these inconveniences are overcome. When it is desired to broil, a front broiler-door at *e*, if used, is let down. The adjustable top plate G^2 , together with the portion *c'* of the front plate, if attached thereto, (shown in dotted line, Fig. 1,) is elevated, as shown at G^1 , and the same held in position by the pawl *a* co-operating with the ratchet *b*, and the hinge *e* with the fixed top plate *G*.

Having thus enlarged the broiler-opening from two to six, eight, or ten inches, as circumstances may require, the broiler or grid-iron *K* is placed in position over the fire-box *A* for broiling purposes.

The enlarged opening allows free access to the fire and to the broiler without removing it, while the position of the tops G^1 and *G* relative to the top oven-flue *L* produces an active inward draft to the said flue, thereby conveying through the same the smoke and fumes, preventing their escape into the apartments. The enlarged broiler-opening also provides easy access to the top of the fire for various other culinary operations.

In construction, we do not wish to confine ourselves to the plan shown in the accompanying drawings, for the same may be varied in some minor details, viz: The position of the pawl and ratchet may be reversed, or any known mechanical equivalent employed to produce a like result. Again, the front opening *c* may be extended to the top plate G^1 , and covered by a drop or hinged door, in

which case the portion *c'* will not be attached to the top G^1 ; or the whole of cover to the opening *c* may be attached to, and operated with, the top G^1 . Again, the top plate G^1 may be arranged so as to swing off from the range or stove upon a pivot affixed either to the stationary top *G* or to the vertical walls of the structure, in which case so much of the space above the fire would be uncovered for broiling purposes.

Having thus described our invention, what we claim is—

1. In a range or stove, a movable boiler or top plate, G^1 , which may be adjusted to form the top casing of the fire-box *A*, or elevated to increase vertically the opening above said fire-box, combined with a stationary top plate, *G*, which forms the top casing of the gas and smoke flue *L*, leading from the said fire-box, substantially in the manner and for the purpose herein described.

2. The combination of the adjustable boiler or top plate G^1 , enlarged vertical opening *c*, fire-box *A*, and flue *L*, as and for the purpose herein described.

3. The combination of the adjustable boiler or top plate G^1 , closing-plate *c'*, enlarged vertical opening *c*, fire-box *A*, and flue *L*, as and for the purpose herein described.

4. The combination, in a range or stove, of an adjustable boiler or top plate, G^1 , hinged or otherwise attached, as at *e*, to a stationary flue top plate, *G*, with the pawl *a* and ratchet *b*, substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAFEW S. VAN BUREN.
ROBERT Z. LIDDLE.

Witnesses:

S. W. WHITNEY,
W. J. BYRNE.