2 Sheets—Sheet 1.

J. R. HYDE.

Cooking Stove.

No. 18,586. Patented Nov. 10, 1857.

Fig. 1

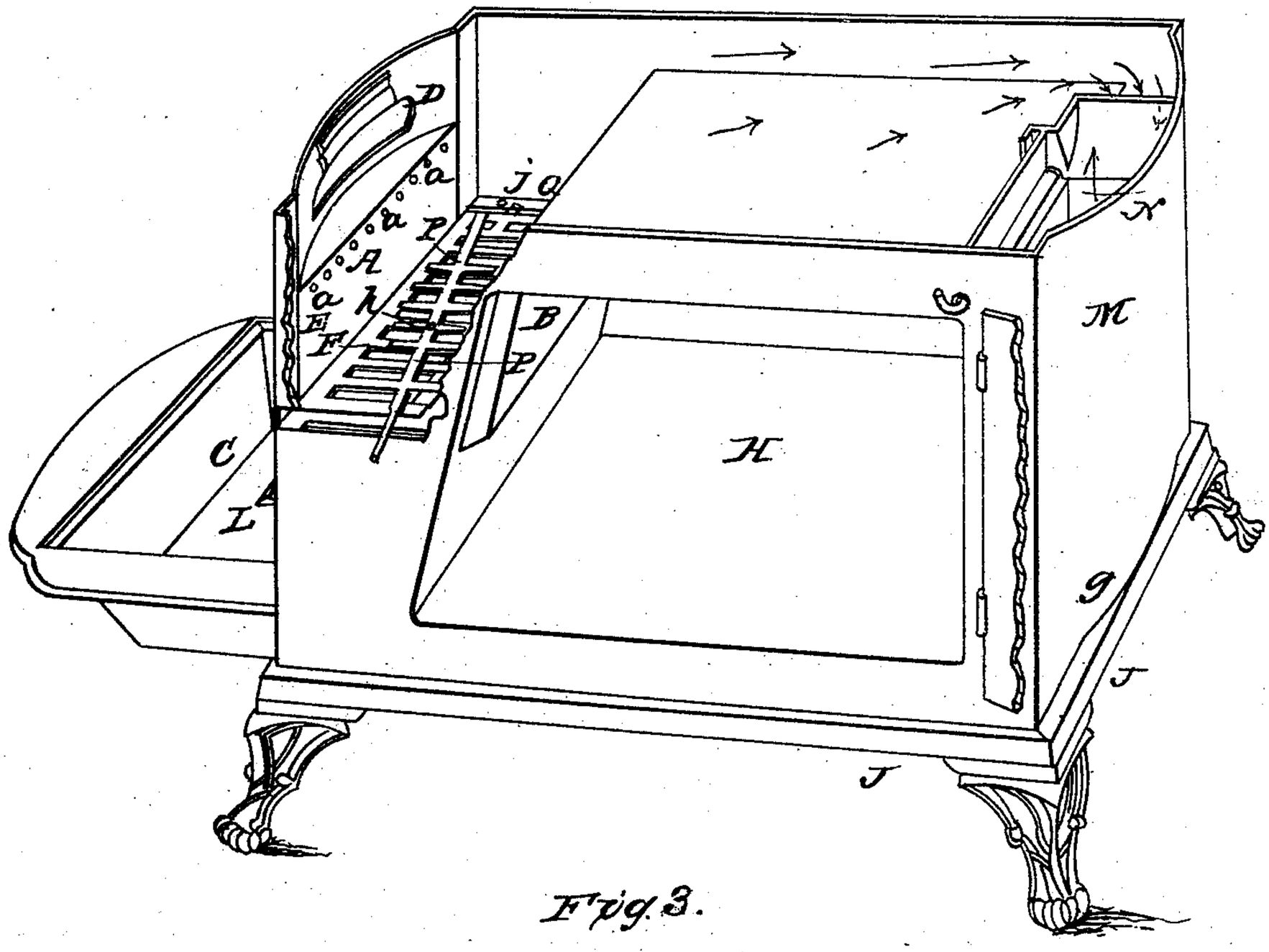
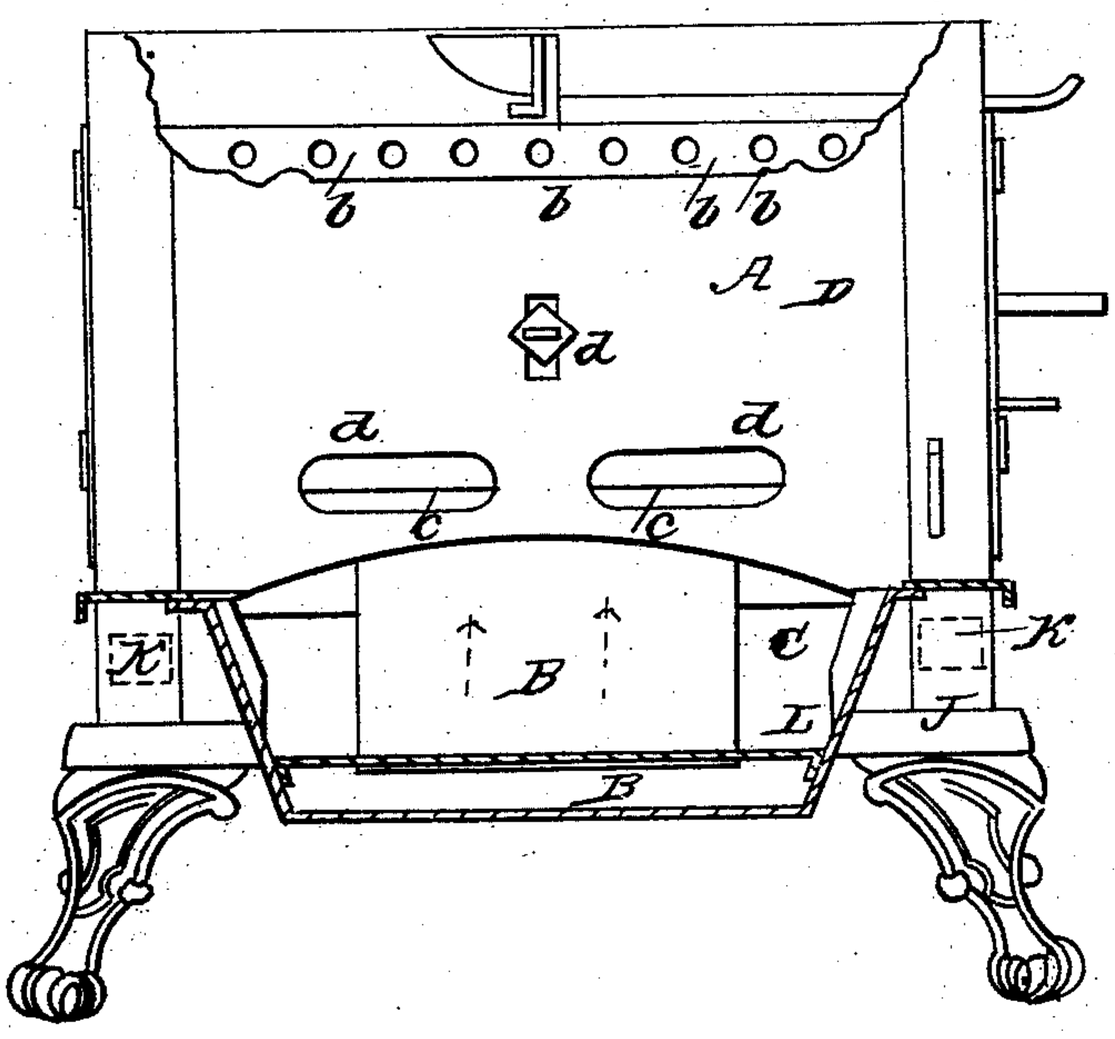


Fig. 3.



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Cooking Stove.

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2 Sheets—Sheet 2.

Patented Nov. 10, 1857.

Fig. 2

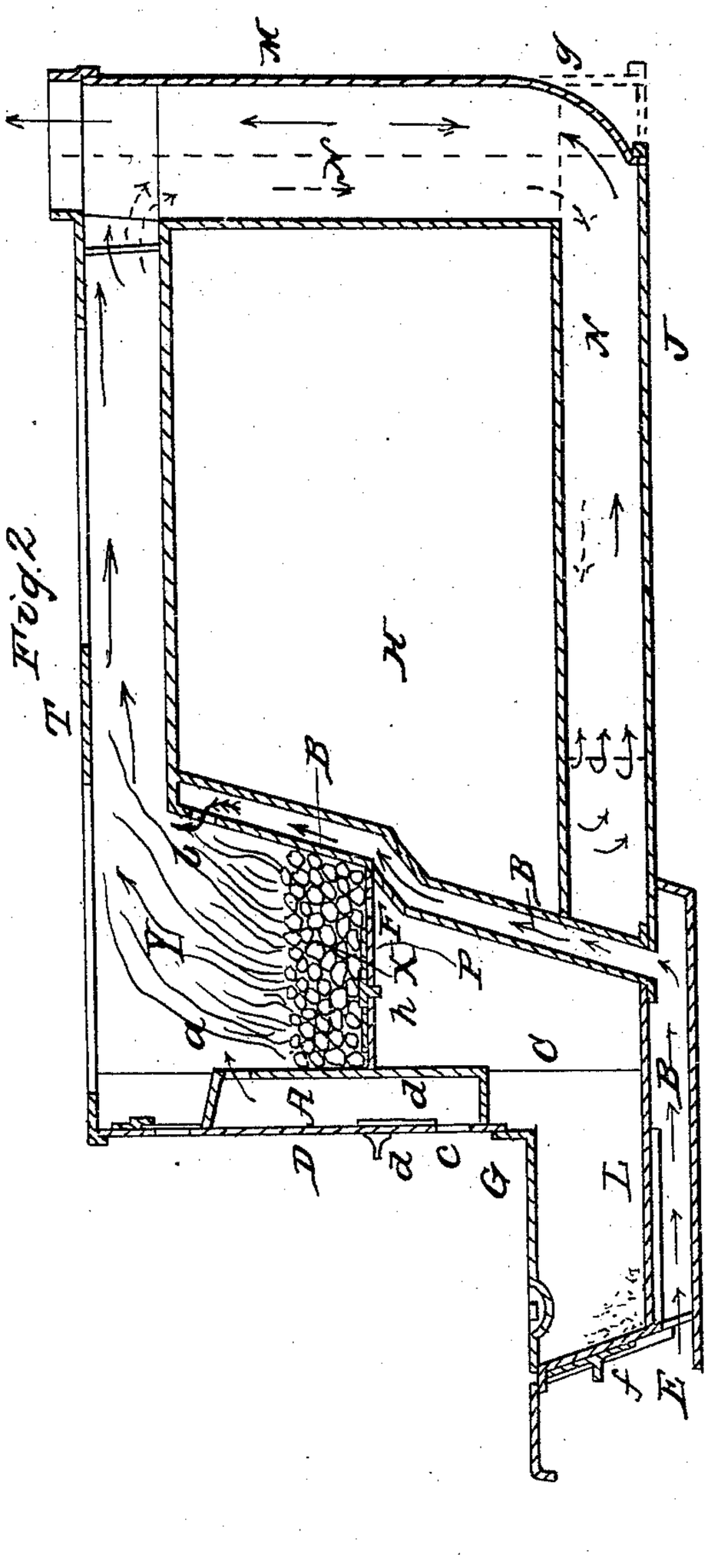


Fig. 3

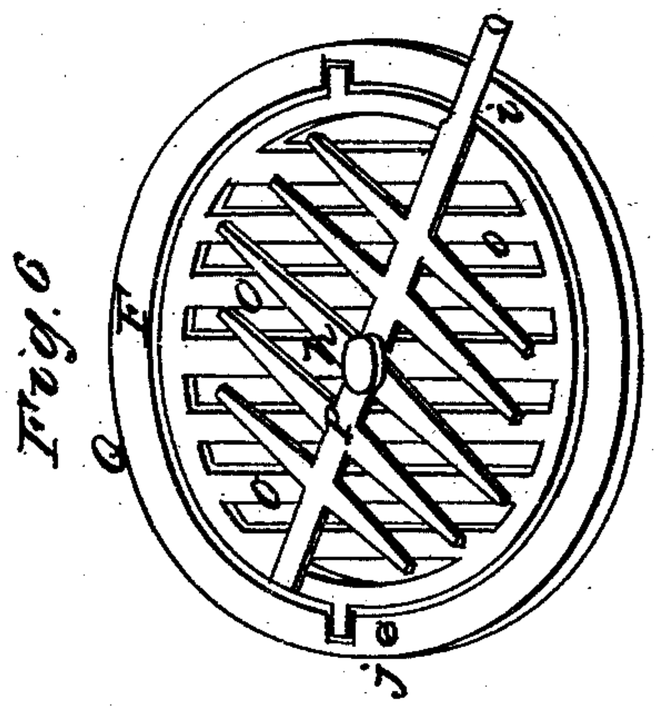


Fig. 4

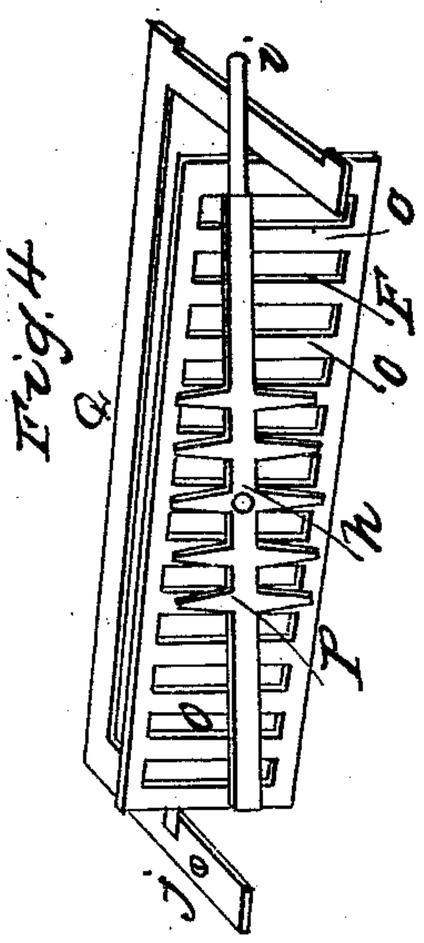
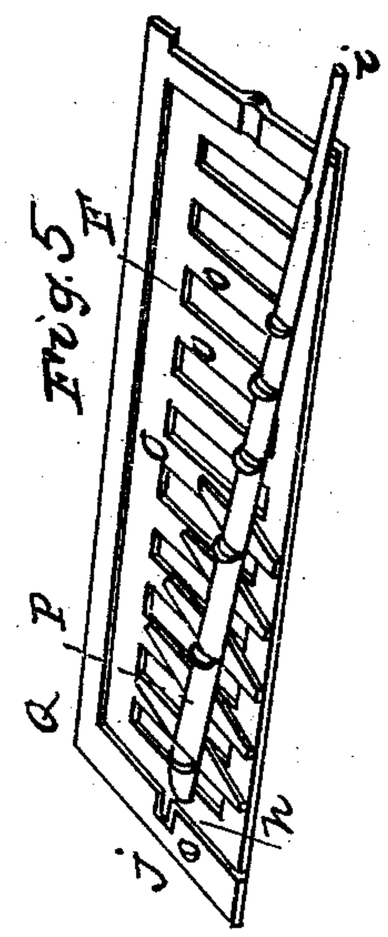


Fig. 5



UNITED STATES PATENT OFFICE.

JAMES R. HYDE, OF TROY, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 18,586, dated November 10, 1857.

To all whom it may concern:

Be it known that I, JAMES R. HYDE, of the city of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Cooking-Stoves for Burning Bituminous Coal and other Fuel; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved stove—the top-plate being removed and some other parts broken away; Fig. 2 a longitudinal section, and Fig. 3 a front sectional elevation of the same; and Figs. 4, 5 and 6 perspective views of its improved grate.

The same letters refer to like parts in all the figures; and the arrows therein indicate the directions in which both the air which supports the combustion, and the hot gaseous products thereof, circulate through the stove.

My improved stove belongs to that heretofore well known class in which air is admitted into the fire-chamber not only through the grate, but also above the burning fuel, to promote the combustion of the gases evolved therefrom.

In my stove, heated air can be admitted into, or prevented from entering the fire chamber, above the fuel, simultaneously through both a slit or the holes, *a*, along its front side, and a slit or small holes, *b*, along its back side, while the draft through the grate is either closed or open; and this is also the case in the stoves upon which mine is an improvement: Yet, in those previously made cooking-stoves, the two sets of holes *a* and *b* were both supplied with hot air from one and the same chamber or flue, which surrounded the fire-box; so that hot air could not be admitted into the fire-chamber through one of the two sets of holes, *a*, *b*, without at the same time admitting the hot air into the fire-chamber through the other set. But in my improved stove the flue or chamber A, which supplies heated air through the small holes, *a*, to the front part of the fire chamber, Y, above the flue X, is distinct from, has no flue connection with, the flue or chamber, B, which supplies hot air to the back part of the fire chamber through the holes *b;* as well as being equally separate from the ash-box-chamber, C, which furnishes air through the grate, F, to the fuel.

The hot-air chamber A, is formed between the front-plate, D, of the stove and the front-plate E, of the fire-box, and has, near its bottom, an opening, *c*, through the front-plate D, to admit cold air; which opening is provided with a damper *d*. The opening *e*, which alone admits cold air into the flue B, is also provided with a damper, *f*. Cold air is admitted into the ash-box-chamber, C, to supply the draft through the grate, by sliding back the loose hearth-plate, G, or through dampered openings therein, as usual. Thus, in my stove, the three hot-air chambers A, B, and C, are entirely separate, and each is provided with a separate dampered opening for controlling the admission of cold air thereto, and consequently the discharge of heated air therefrom; so that thereby the draft into the fire-chamber can be not only through the grate alone, or through the grate and the two sets of holes *a* and *b*; or through only these two sets of holes; but also either through the holes *a* alone, or through the holes *b* alone; or through only the grate and the holes *b*, or through only the grate and the holes *a*. This further capacity for regulating the admission of hot air into the fire-chamber of the cooking-stove above the burning fuel, is of much practical importance; for whenever it is desirable to burn the gases which rise from the burning fuel, only along the front side of the fire-chamber, to give intense heat to the boilers in the front pot-holes of the top-plate, T, the admission of hot air above the fuel can be confined to the holes *a;* and whenever it is required to burn the gases only as far back as possible, to give strong heat to the oven H, and boilers in the back pot holes, the admission of hot air above the fuel can be limited to the holes *b*.

All the plates or main pieces of my improved stove are to be cast of iron and put together in the usual manner of "mounting" such cooking stoves.

Having thus described my improved cooking stove, I wish it distinctly understood that I do not broadly claim so constructing a stove that heated atmospheric air can be admitted, at the same or at different times, into the fire-chamber, at different places above or beyond the fuel, from one or both of two separate air-heating chambers, by the use of the dampers by which the admission

of cold air into such air-heating chambers is controlled; for the purpose of promoting the combustion, in different parts of the fire-chamber, of the gases evolved by the burning fuel.

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

The arrangement of the hot-air chambers A, B, and C; the chambers A and B being so constructed that the air can be admitted to or excluded from them, entirely independent of the chamber C, by means of the registers *c* and *e*, and being provided with apertures, *a* and *b*, substantially in the manner and for the purpose specified.

JAMES R. HYDE.

Witnesses:
ED. H. UNIAC,
A. F. PARK.