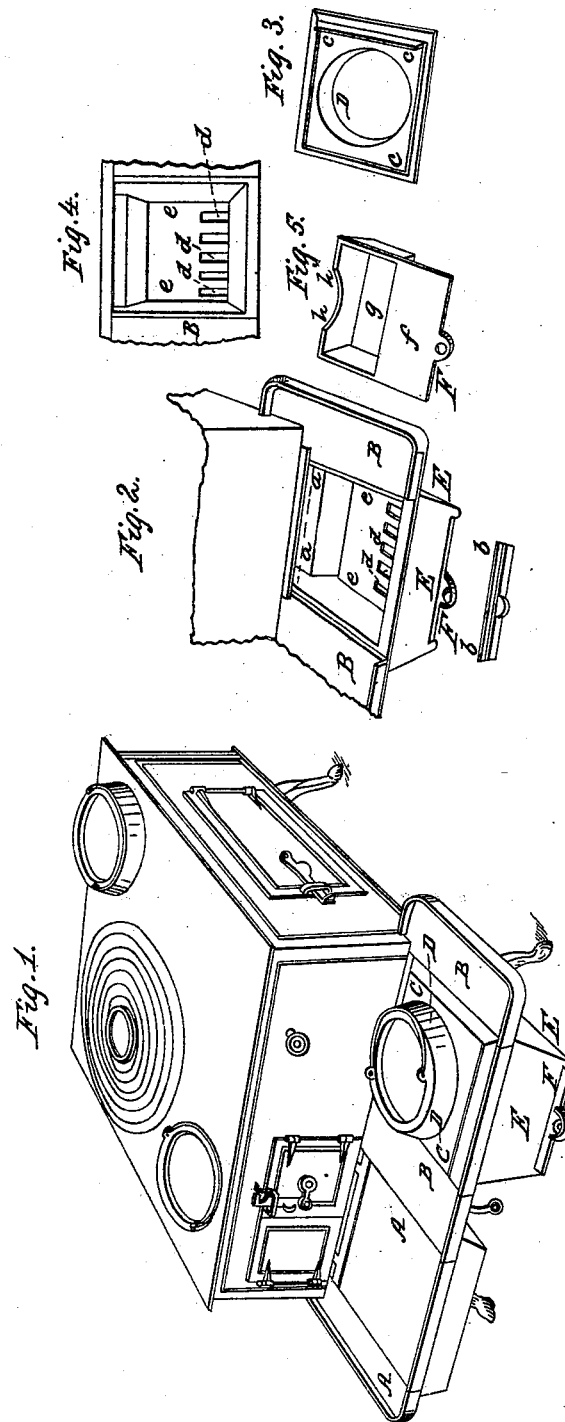


D. H. HILLIARD.
Cooking Stove.

No. 1,858.

Patented Nov. 26, 1840.



UNITED STATES PATENT OFFICE.

DAVID H. HILLIARD, OF CORNISH, NEW HAMPSHIRE.

COOKING-STOVE.

Specification of Letters Patent No. 1,858, dated November 26, 1840.

To all whom it may concern:

Be it known that I, DAVID H. HILLIARD, of Cornish, in the county of Sullivan and State of New Hampshire, have invented a new and useful furnace or apparatus for cooking or other purposes, which I denominate the air-tight furnace, and which may either be used alone as a distinct furnace or may be appended to various kinds of cooking-stoves now in use; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawings I have represented my air-tight furnace as appended to a well known and highly approved cooking-stove for which Letters Patent were granted to Thomas Woolson, in the year 1831.

Figure 1, is a perspective view of this stove, the hearth A, A, of which was made by said Woolson to occupy about one half only of the side of the stove upon which it was situated. In appending my air-tight furnace to it, I extend the hearth along the whole side by the addition of the part marked B, B. A sliding plate C, C, covers the fire chamber of my furnace, and has a collar D, D, rising from its upper side, to receive a tea-kettle, or other cooking utensil; this collar may be about eight inches in diameter, or of such other size as may be preferred; the plate C, C, slides in grooves, in the ordinary way of plates in hearths. E, E, is the body of the fire chamber, formed like a sink in the hearth, and F, is the front edge of a plate constituting a part of the ash pit drawer.

Fig. 2, shows the fire chamber of my furnace, the plate C, C, being removed for that purpose. *a, a*, is an opening at the back of the fire chamber leading into the flue under the oven of the stove. This opening may be three inches wide, and when the furnace is in use, it is contracted by means of a fender piece, or strip of metal, *b, b*, supported by suitable ledges, and rising to the height of the dotted line, say one and a half inch; this strip may be lifted out for the purpose of cleansing the oven flue. When the sliding cover C, C, is in place, and is pushed entirely back, the opening *a, a*, above the strip *b, b*, will be entirely closed, there being a strip cast along on the lower side of the cover of sufficient width for that purpose, as

shown in Fig. 3, which represents the cover as inverted, *c, c*, being the strip near to its back end, and which fits up against the strip *b, b*. It will be seen, therefore, that by pushing the sliding plate completely home, all draft through the fuel contained in the fire chamber will be arrested. This is one of the devices from the employment of which I have given to my furnace the name of air-tight; but the manner in which I have arranged and constructed the bottom of the fire-chamber, and the ash pit drawer, is likewise an essential part of my air-tight apparatus, enabling me also to regulate the draft through the fire with the utmost precision.

Fig. 4, is a bird's eye view of the bottom of my fire chamber; *d, d, d*, is a grating in front, through which air may be admitted to the fire, while the posterior part *e, e*, is left solid. The ash pit drawer, which slides under the bottom of the fire chamber is so constructed as, when completely pushed in, to close the openings in the grated part *d, d*, while by being drawn out it will allow a passage for air through them, in a regulated degree.

Fig. 5, shows the form of this ash pit drawer; its front end *f*, consists of a flat plate which fits as closely as it can be made to do, against the under side of the fire chamber; its posterior portion *g*, is in the usual form of an ash drawer; at its back edge *h, h*, it is hollowed, or cut away for the purpose of admitting air. It will be apparent, that from this manner of forming this drawer, and the bottom of the fire chamber, the draft through the grate bars will be entirely stopped by pushing the drawer in, and will be opened to any desired extent, by drawing it out; the draft of air entering at the part *h, h*, and passing through the grate bar openings when they are removed.

It will be seen at once that my air-tight furnace may be equally well applied to stoves of other constructions, by establishing a proper opening into a flue of such stove; or that the furnace may be used alone, it being in that case mounted on proper legs, and being, also, provided with an exit pipe, or flue, adapted to it, to conduct off the smoke.

Having thus, fully described the manner in which I construct my air-tight furnace,

and also the mode in which the same may be appended to Woolson's cooking-stove, and to stoves of other descriptions, what I claim as my invention therein, and desire to secure by Letters Patent, is—

5 1. The manner in which I have constructed the bottom of my fire chamber, with grated openings through the anterior part thereof, and combined therewith an ash pit
10 drawer, having a flat plate in front of sufficient width to cover these openings, and an aperture in the rear, for the purpose of ad-

mitting air, the whole operating in the manner set forth.

2. And in combination therewith, I claim 15 the strips of metal *b*, *b*, and *c*, *c*, arranged and operating as described, for the purpose of closing the flue space at the back of the fire chamber, when required.

DAVID H. HILLIARD

Witnesses:

ICHABOD SMITH, JR.,
OBADIAH W. SMITH