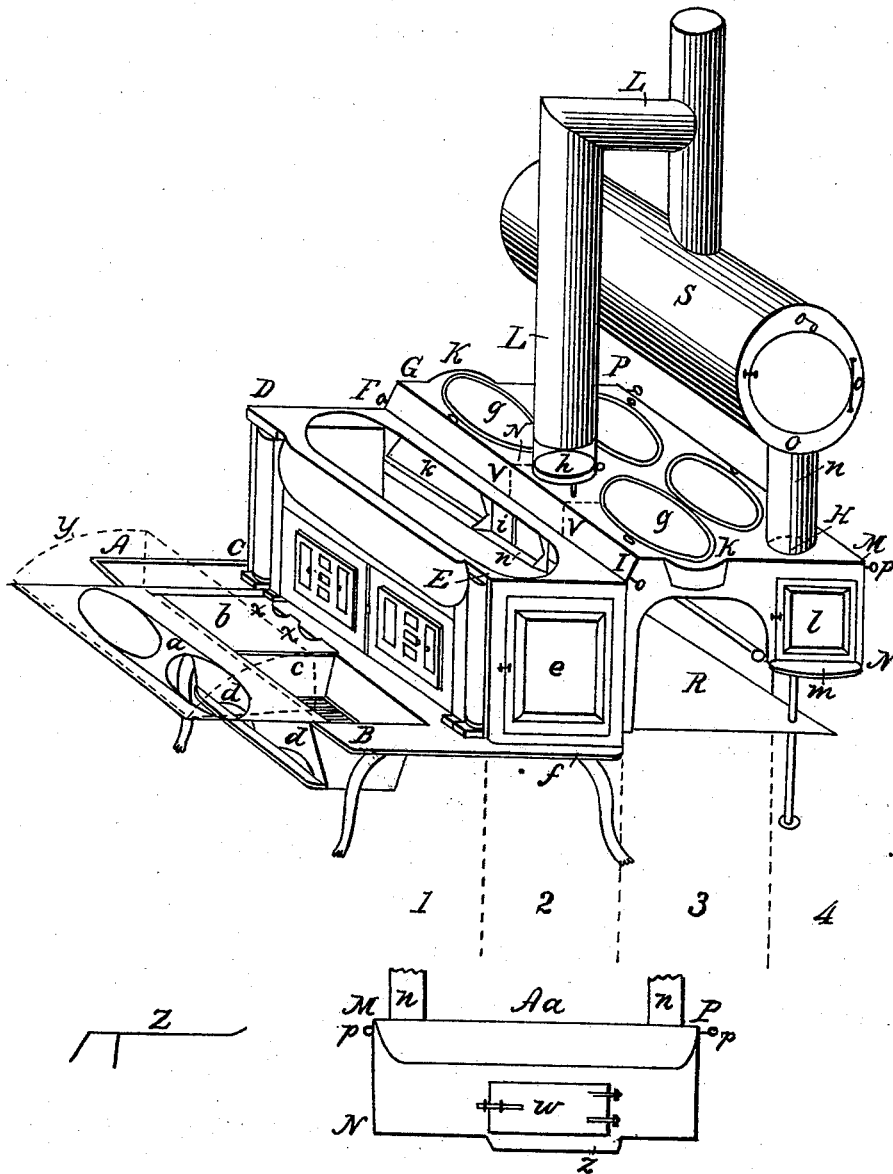


J. T. FARRAND.

Cooking Stove.

No. 4,137.

Patented Aug. 4, 1845.



UNITED STATES PATENT OFFICE.

JEHIAL T. FARRAND, OF PORT BYRON, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 4,137, dated August 4, 1845.

To all whom it may concern:

Be it known that I, JEHIAL T. FARRAND, of Port Byron, in the county of Cayuga and State of New York, have invented a new and useful Stove; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and which for greater convenience and clearness of description is divided by dotted lines into four sections, each of which is described as follows, the number of inches being that of size No. 1 of the stove.

Section 1 represents the hearth and double hearth-furnace. The length of the hearth from A to B is 34 inches. The breadth from A to C is $12\frac{1}{2}$ inches. The hearth contains the usual slide 20 inches wide, in which are two boiler holes separated by a movable piece *a* by which they can be thrown into one. Below the slide is a recess of $2\frac{1}{2}$ inches. The bottom of the recess consists of two moveable plates, one of which is represented by *b*, having on the inner edge two indentations for draft holes *x—x*. Below these plates is situated the double hearth-furnace, which is loose and movable, the top of which is of the same size as the bottom of the recess in the hearth. This furnace is $5\frac{1}{2}$ inches deep $8\frac{1}{2}$ inches wide at the top and 6 inches wide at the bottom and 17 inches long and divided into two equal parts by a moveable perpendicular plate *c* whereby either of the parts can be heated alone or both thrown into one. On the front bottom are two small draft holes *d d*. A grate is placed near the bottom of the furnace. The plates *b* being removed flat-iron grates or gridirons are made to be substituted therefor; or the fuel may act directly on the boiler holes in the slide; the draft, smoke, &c., passing in all cases into the main furnace under the front doors through indentations *x—x*. A tin baker or reflector is also made in length and breadth equal to the slide and as high as the front doors of the main furnace, closed at the end and open front, which is sometimes placed over the hearth-furnace for baking, roasting, &c., represented in the drawing by dotted lines *y*.

Section 2, represents the main furnace in length from D to E, is 28 inches and in height from C to D, is $10\frac{1}{2}$ inches and in breadth from D to F, $9\frac{1}{2}$ inches. At the end

is a door *e*, $7\frac{1}{4}$ inches by $7\frac{1}{2}$ with a narrow continuation of the main hearth in front of it *f*, in the front are folding doors with grates and slide $8\frac{3}{4}$ inches wide by 6. Directly over the front doors is a small projection 2 inches wide by 20 long. On the top of the main furnace is a long boiler hole which can be separated into two by a piece like *a*, in the hearth slide the bottom of this furnace has a recess two and one-eighth inches deep, corresponding with that in the main hearth. The draft passes from this furnace through three valves hereinafter more fully described.

Section 3 represents the center of the stove, the top whereof and which being continued forms also the top of section 4, is raised at an angle of 75 degrees $2\frac{1}{2}$ inches above the top of the main furnace and is the same length of the main furnace D E and is in breadth to the rear or summer furnace at H, $12\frac{3}{4}$ inches at the top and $14\frac{3}{4}$ inches at the bottom from the back corner F, of the main furnace. At the end are projections to accommodate the boilers *g, g*. The bottom plate of the center of the stove is depressed where it joins the main furnace to correspond with the elevation, F, G, and is slightly raised at its back edge where it joins the summer furnace; a section whereof is represented by Fig. Z. In the middle of the center of the stove rise the main flue L, which is oval or oblong at its collar and in which at its collar is a valve *h*, which may be made to close the main flue entirely. A recess *n* 8 inches long by 5 inches broad and $2\frac{1}{8}$ inches deep is sunk into the bottom plate of the center of the stove opening in front into the main furnace. The two sides of this recess, being 4 inches high by 5 inches wide, are continued up perpendicularly till they join the top of the stove at the foot of the collar of the main flue as shown by dotted lines *v v*. The rear of the box thus formed of the recess and its raised side is left open. The front opening into the main furnace may be closed by means of a double valve, in the form of folding doors turning on perpendicular axes at their outer ends, one half of said valve is represented by *i*. On each side of this recess and occupying all that portion which joins the main furnace to the center not occupied by the recess are draft passages which may be closed by means of valves $9\frac{3}{4}$ long by two inches wide one of which is represented by *k*, turning

upon horizontal axes at their upper edges. The uses of the several valves will be hereinafter more fully explained.

Section 4, represents the rear or summer furnace, the top of which is a continuation of the top of the center extended from H, backward 7 inches to M, and $8\frac{1}{2}$ inches to N, by 6 inches wide. In the end is a door *l*, in front of which is a narrow hearth *m*.
 10 The bottom plate contains the usual recess and grate; and in the center of the extreme back of the stove in the plate P, M, N, is another door 11 inches by $4\frac{1}{2}$ with a narrow hearth and draft hole 10 inches by 2, more
 15 fully shown in the rear view A *a*, by letter *w*, as is also the hearth last above mentioned by letter *z*, in the same figure. At each end of the furnace rises an oval pipe 16 inches high, one of which is represented by *n*,
 20 supporting an elevated oven S, and between said pipes are two boiler holes with a projection in the back plate P, M, N, of one inch to accommodate. The larger sizes of this stove only have two, the smaller, one.
 25 At the foot of each oven pipe is placed a valve, one of which is represented by *p*, by means of which the draft can be entirely shut off from the oven; the oven S raised 16 inches above the summer furnace and
 30 supported by the pipes which heat it is 28 inches long and is a cylinder $12\frac{1}{2}$ inches across; the pipe surrounding at *o*, *o*, *o*, is an ellipsis, the transverse (perpendicular) axis of which is $16\frac{1}{4}$ inches. The conjugate
 35 (horizontal) is $14\frac{3}{4}$ inches. The draft passes off from the oven by a pipe in the center of the top which is joined a few inches above the oven by the main flue pipe, L.

Underneath sections 3 and 4 is placed a
 40 movable plate R, supported by means of loops and slides to the lower rear, R, edge of the main furnace and in the rear by shoulders on the back legs of the stove. A movable tin baker 24 inches long open
 45 in the top and one side is made to set on the plate R, and fit close to the back of the main furnace and bottom of the center of the stove.

The uses of the valves in directing the
 50 draft and bringing it to bear on any required point are as follows: First, the draft from the hearth furnace passes into the main furnace through indentations and is

then disposed of in the same manner as the draft of the main furnace. Second, the
 55 draft of the main furnace acts and is disposed of as follows: First, with the valves all closed the draft has no chance to pass off; by opening the valves *i*, *i*, which open
 60 into the recess and also the valve *h*, at the foot of the main flue the draft passes off through the main flue without affecting the center or rear portions of the stove. Second,
 65 with the valves all closed except *i*, *i*, and valves *p*, *p*, at the feet of the oven pipes *n*, *n*, the draft acts upon the oven, which effect is also produced by opening all the valves except valve *h*. Third, with the
 70 valves all closed except valves *k*, *k*, and valve *h*, the draft passes under boiler holes *g*, *g*, and through the rear of the recess into the main flue; the whole effect of the draft may be concentrated on either of the boiler
 75 holes *g*, by closing the valve *k* under the opposite boiler hole. Either of which last effects are produced without heating the rear portion of the stove. Fourth, the rear
 80 or summer-furnace is intended for summer use and to regulate the heat on the oven, and may be used without affecting the other portions of the stove. The draft passes off
 85 through valves *p*, *p*, at the feet of the oven pipes *n*, *n*, or either of them or by closing them and opening valve *h* at the foot of the main flue, passes off through the main
 90 flue without affecting the oven.

Your petitioner further represents that he claims as his invention and desires to secure by Letters Patent the following particulars and combinations—

1. An elliptical covering in combination with the circular oven, allowing the heat to act with more uniformity on all parts of the oven and affording the draft an opportunity
 95 to unite and pass off freely.

2. The manner in which I have combined and arranged the valves *k* and *i* with respect to the draft pipe L and boiler holes, and in combination therewith the two division
 100 plates extending back on each side of the valves *i* in the center of the stove.

JEHIAL T. FARRAND.

Witnesses:

Z. C. ROBBINS,
 R. P. STOW.