

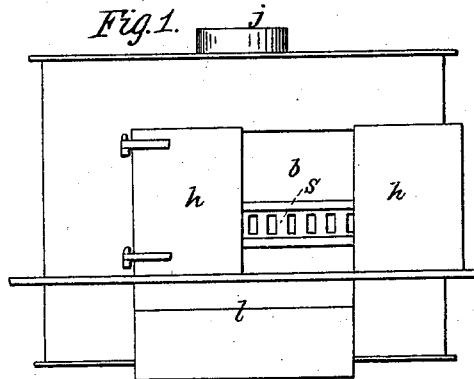
N. BOSWORTH.

Cooking Stove.

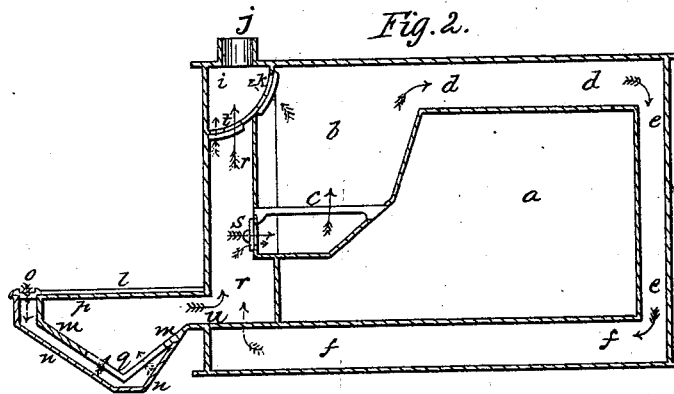
No. 5,260.

Patented Aug. 28, 1847.

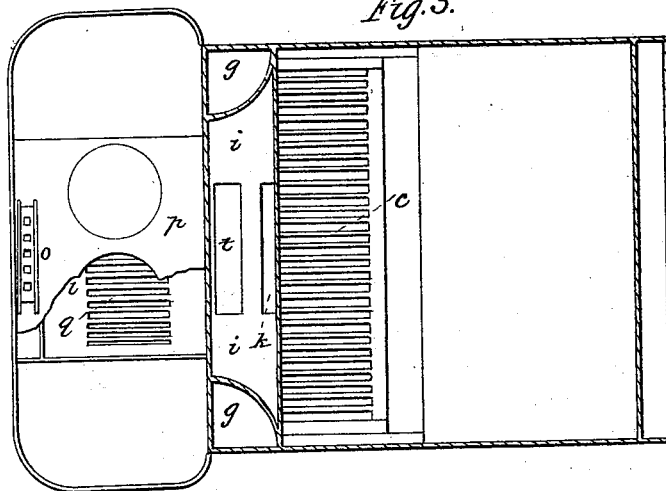
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



# UNITED STATES PATENT OFFICE.

NATHANIEL BOSWORTH, JR., OF TROY, NEW YORK.

## COOKING-STOVE.

Specification of Letters Patent No. 5,260, dated August 28, 1847.

*To all whom it may concern:*

Be it known that I, NATHANIEL BOSWORTH, JR., of Troy, in the county of Rensselaer and State of New York, have invented  
5 a new and Improved Cooking-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 accompanying drawings, making part of this specification, in  
10 which—

Figure 1, is a front view, Fig. 2, a vertical longitudinal section, and Fig. 3 a top view thereof,—the upper plate being supposed to  
15 be removed.

The same letters refer to the same parts in all the figures.

*a* is the oven placed directly in the rear of the fire box *b*, or rather this latter may be  
20 considered as suspended within the front part of the oven.

*d d*, *e e* and *f f* are three flues the entire breadth of the stove, and formed respectively by, and between the top plate of the  
25 oven, and that of the stove; the back of the oven, and the back plate of the stove; and the bottom of the oven and the bottom plate of the stove. The latter flue *f f* extends forward to the front of the stove and there  
30 communicates with the two vertical corner flues *g g* which pass up at each side of the front flue doors *h h*, and are connected at the top by the horizontal cross flue *i i*,—immediately above which and of course at  
35 the front of the stove, is placed the smoke pipe *j*.

At *k* is an opening governed by a register or damper, and forming a direct communication between the fire chamber *b* and the cross flue *l l*.

40 It will be readily seen that when a fire is lighted in the fire chamber, if *k* be open the heated air passes immediately by the cross flue *i i* to the smoke pipe *j*. But if *k* be closed the current passes by the flues *d d* and  
45 *e e* over the oven, and down at its back into the bottom flue *f f*,—whence it ascends by the vertical corner flues *g g*, and passes by the horizontal cross flue *i i* to the smoke pipe.

*l* is the sunk hearth adapted to light  
50 cooking or summer use,—*m m* is a cast iron plate of the section shown in Fig. 2, and so placed within the hearth as to leave a vacant space *n n* between it and the latter; which space is intended for a draft flue receiving  
55 air through a register *o* in the hearth plate *p*.

The lower portion of the plate *m m* is formed into a grate, *q*.

Between the front flue doors *h h* which are flush with the front of the stove,—and the fire box *b*, a space *r r*, is left, for the  
60 double purpose of affording a direct escape to the products of combustion in the sunk hearth to the smoke pipe, without passing through the fire box *b*,—and also forming a hot air chamber in order to create a supply  
65 of heated air to feed the current beneath the grate *c*—said current being regulated by a register at *s*. To effect the first of these objects, an opening *t* (governed by a damper), is made in the bottom of the cross flue *i i*.  
70 When then the furnace in the sunk hearth is employed, the dampers *o* and *t* being open and *s* closed, the current passes down *n n* and rising through the grate bars *q*, amid the fuel, escapes by the space *u* into the flue  
75 or chamber *r r*; whence it passes through the opening *t*, into the cross flue *i i*.

The air required to support combustion in the fire box *b*, enters at the register *o* at the front of the hearth, and passing in the manner just mentioned into the flue or chamber  
80 *v v*, becomes heated, (by radiation from the front of the fire box and the adjacent surfaces of the other flues), and enters beneath the grate *c* by the register *s*.  
85

It will be seen that by my arrangement, the furnace in the sunk hearth is rendered entirely independent of the other parts of the stove and may be used either separately or in conjunction therewith. The draft of  
90 the hearth furnace will be equally strong and effective as that of the principal fire chamber, so that coal may be used as fuel, and the capacity of the whole stove for cooking be greatly increased. The top plate of  
95 the stove being perforated for four boilers and the hearth plate for two, the whole six may be used at once.

It is evident that the front doors *h h* opening into the flue or chamber *r r*, are not essential to the operation of my stove, as they might be dispensed with, by using a door in the side of the stove situated at one end of the fire box. The doors however are convenient for roasting and broiling: the damper *i* being opened in the latter case, and from its height above the hearth insuring the more complete removal of the smoke, &c., arising during the operation.

I do not intend to claim placing the smoke  
110

pipe at the front of the stove, and carrying the draft to the rear around the oven and up in front of the fire box, as I am aware that this has already been done; but

5 What I do claim and desire to secure by Letters Patent is—

Dividing the space between the front of the fire box and the front of the stove, vertically into three portions, the two outer communicating at the bottom with the flue beneath the oven and connected at the top by a horizontal cross flue; while the middle portion or space between these latter constitutes a flue for the furnace in the sunk hearth, communicating by a damper with the cross flue before mentioned and through this lat-

ter with the smoke pipe,—and serving likewise to receive and heat the current or external air before it passes beneath the grate of the fire chamber; and in combination with 20 the foregoing—I also claim the manner in which (by the arrangement of the register *o* in the front of the hearth plate and the interior plate *m m* forming the passage *n n*) I introduce the draft of external air both to 25 the hearth furnace and principal fire chamber.

NATHANIEL BOSWORTH, Jr.

Witnesses:

WM. S. ELLISON,  
CHAS. H. HAZEN.