J. FLEMING.

Cooking Stove.

No. 93,427. Patented Aug. 10, 1869.

Fig. 1.

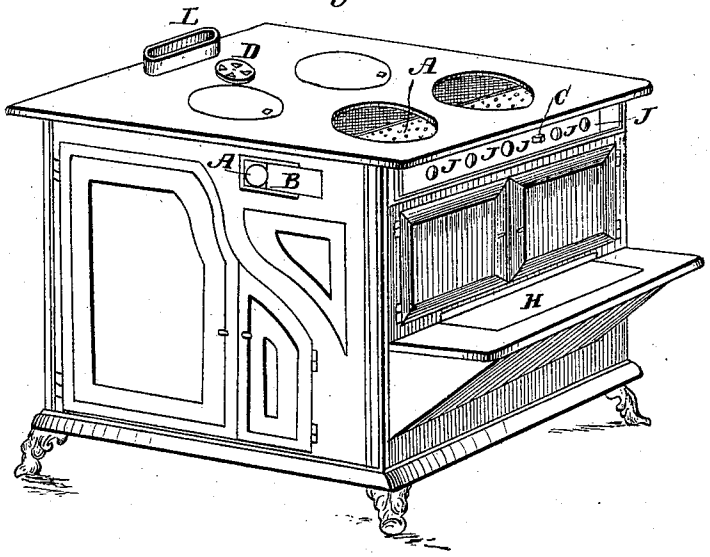
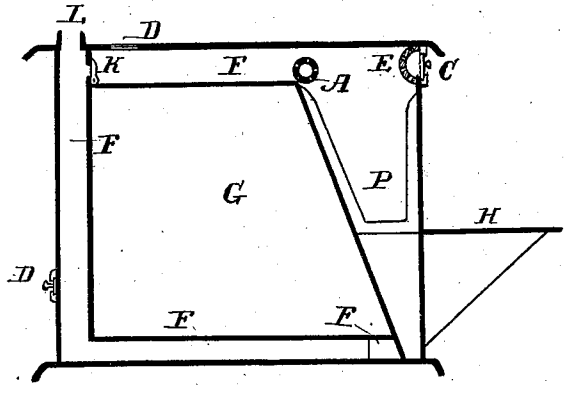


Fig. 2.



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JOHN FLEMING, OF ERIE, PENNSYLVANIA.

Letters Patent No. 93,427, *dated August* 10, 1869.

IMPROVEMENT IN COOKING-STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN FLEMING, of Erie, in the county of Erie, and State of Pennsylvania, have invented a new Improvement in Stoves; and I do hereby declare that the following is a full, true, and exact description of the same, reference being had to the accompanying drawings, and the letters of reference marked thereon, the same forming a part of this specification.

In the drawings—

Figure 1 is a perspective view of my invention.

Figure 2 is a sectional view of the same.

The manner in which I construct my invention is as follows:

I first construct a cook-stove after the ordinary manner, as, for example, the one shown in fig. 1, with the direct and return flues arranged in the ordinary manner.

I then have the fire-pit or pot P so arranged that no air can pass in at the bottom of the same; that is, the slides are made to shut air-tight, or as nearly so as they can be constructed.

At the top of the front of the stove I have a series of air-holes, J J, &c., which may be closed or opened by the slide C.

These openings admit the air into a perforated tube, E, which passes the whole front of the stove.

This tube E, it will be seen, passes along the top of the front side of the fire-pit or pot P.

Along the top of the back of the said pit P, I pass another perforated tube, which has its opening on the side of the stove, seen at B, fig. 1. This tube is closed at pleasure by the slide B.

On the top of the stove, at the point marked D, fig. 1, I put a register for the admission of air, and also one at the back of the stove, D, fig. 2. These registers are for the purpose of adding more air to the flame, if needed, in its passage around the oven G, thereby increasing the flame by their use in a new fire in the upper one, or checking draught in the rear ones, if desired.

The manner in which I operate my machine is as follows:

A fire is built in the fire-pit P, and the coal is put on. The registers C and B are opened, and the air passes in through the perforated tubes, and the gas and smoke from the smouldering coal is ignited, and the flame is carried back through the flues by the draught.

By this contrivance, all the gas and smoke from the coal are burned up, and the fuel is thereby greatly economized.

My invention may be constructed in various ways, and may be attached to ranges, bakers' ovens, engine-boilers, &c.

Experience has shown that in the use of bituminous coal in cook-stoves, and the creating of steam, it failed, from inability to sufficiently consume the smoke and gas, to create a flame that would heat the bottom of an oven, or avoid the filling up the flues of a stove or boiler.

All efforts heretofore made to consume the smoke and gas by currents of air have largely failed, because they were admitted at wrong points, and in a counteracting manner, and in too large and unequal quantities, and, at the same time, in conjunction with a base or bottom draught, creating too rapid a current of air for combustion.

The only effectual admission of air has been from the top of the fire-box and downward, and not in a manner to commingle moderately and evenly with all the smoke and gas, as they arise from the coal.

A series of experiments was made after seeing all these causes of failure, and after trying various ways, I successfully tried the manner described in my specification, and found it successful in so far consuming the smoke and gas from bituminous coal as to quicken the heat, economize the fuel, and avoid choking the flues.

Having thus succeeded, I apply for a patent, believing my combination new, and knowing it to be useful.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is as follows, to wit:

The registers D, as shown and described, in combination with the tubes E and A, constructed and operating substantially as and for the purposes set forth.

JOHN FLEMING.

Witnesses:

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