J. D. CONNER.

Coal Stove.

No. 52,033. Patented Jan'y 16, 1866.

Fig. 1.

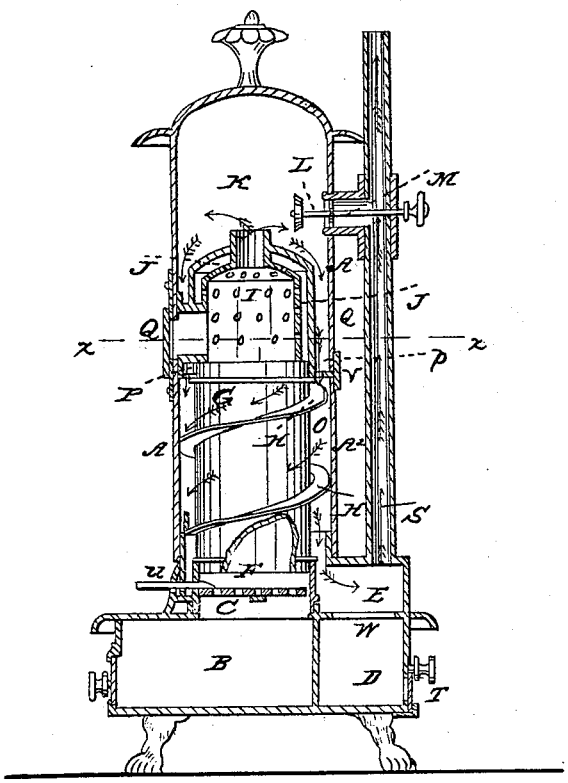
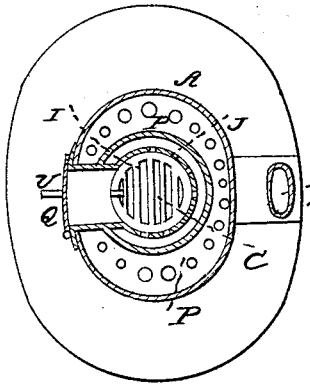


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

J. D. CONNER, OF BLOOMINGTON, ILLINOIS.

IMPROVEMENT IN COAL-STOVES.

Specification forming part of Letters Patent No. **52,033**, dated January 16, 1866.

To all whom it may concern:

Be it known that I, J. D. CONNER, of Bloomington, in the county of McLean and State of Illinois, have invented a new and useful Improvement in Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical section of a stove made according to my invention. Fig. 2 represents a horizontal section taken on the line *x* of Fig. 1.

Similar letters of reference indicate like parts.

This invention consists in a novel construction of a parlor or heating stove, intended especially for burning bituminous coal, although any kind of fuel can be used therein. The upper part of the fire-chamber has provision for admitting air to the hot gases above the fuel, and above all is a gas-combustion chamber. The descending flue has a spiral course opening into an ash or soot receptacle, from which the exit-pipe ascends.

A designates the outer cylinder of the stove, made in sections A' A^2, and B is its ash-pit. Behind the ash-pit is a soot-chamber, D, access to which is had through a door, T, which is held in place by means of a set-screw.

The grate C is so made that it can be oscillated by means of a handle, U, projecting through the front of the stove.

F is a fire-chamber, whose exterior wall is an inner cylinder, G, which is surmounted by a mixing-chamber, I, composed of an inner and an outer wall. Its outer wall is solid, but its inner wall is perforated, so as to permit any air which finds its way into the space J, inclosed between the two walls, to escape through the perforations and mix with the hot gases which ascend from the fire. The top of the mixing-chamber opens into a large gas-consuming chamber, K, which is at the top of the stove. The front of the mixing-chamber is partly cut away opposite the door Q, to allow access to the fire-chamber for the supply of fuel.

O designates the annular space between the outer wall of the mixing-chamber and the cylinder A. It is separated from the spiral descending flue H by a perforated diaphragm, P, whose outer edge has a double flange, V, which embraces the adjacent edges of the sections A' A^2 of the cylinder, and so forms a strong joint for them. The spiral flue H is formed within the annular flue-space O′, which space occurs between the fire-chamber cylinder G and the outer cylinder.

R designates an opening at the bottom of the flue-space O′, which admits the products of combustion into a flue-chamber, E, from which the exit-pipe S rises. The bottom of the flue-chamber E has a large opening, W, made in it to allow any soot which is received in the chamber E from the spiral flue H to fall into the soot-chamber D, from whence it can be removed by means of the door T.

The gas-combustion chamber K is connected to the exit-pipe S by a short pipe, M, which is closed at pleasure by a sliding damper, L, whose handle N passes centrally through the short pipe M and across and beyond the exit-pipe S.

The annular space J in the mixing-chamber is supplied with air from the flue-space O′, into which it opens on each side of the door Q.

The diaphragm P is annular in its general form, but its front part is cut away a distance equal to the width of the channel of the door Q. Its inner edge is supported upon a flange which surrounds the upper part of the cylinder G, while its outer edge, within its double flange, rests on the top of the lower section, A^2, of the outer cylinder.

The course of the products of combustion will be directly through the short flue M when the damper L is open, but when it is closed they will descend along the spiral flue H to the flue-chamber E, and thence into the exit-pipe S.

If it is desired to moderate the draft, it is only necessary to slide the door T so as to uncover its doorway more or less, according to the limitation desired to be put on the draft.

The sliding damper L is made to open and close after the manner of a puppet-valve, and when it is opened the products of combustion

will enter the direct flue from every direction around the damper in a uniform stream of annular form.

I claim as new and desire to secure by Letters Patent—

The combination of the mixing-chamber I J, consisting of two concentric domes, the inner perforated and the outer imperforate, the perforated diaphragm P, double flange N, and shells A′ A^2, all constructed and arranged as and for the purpose set forth.

J. D. CONNER.

Witnesses:
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