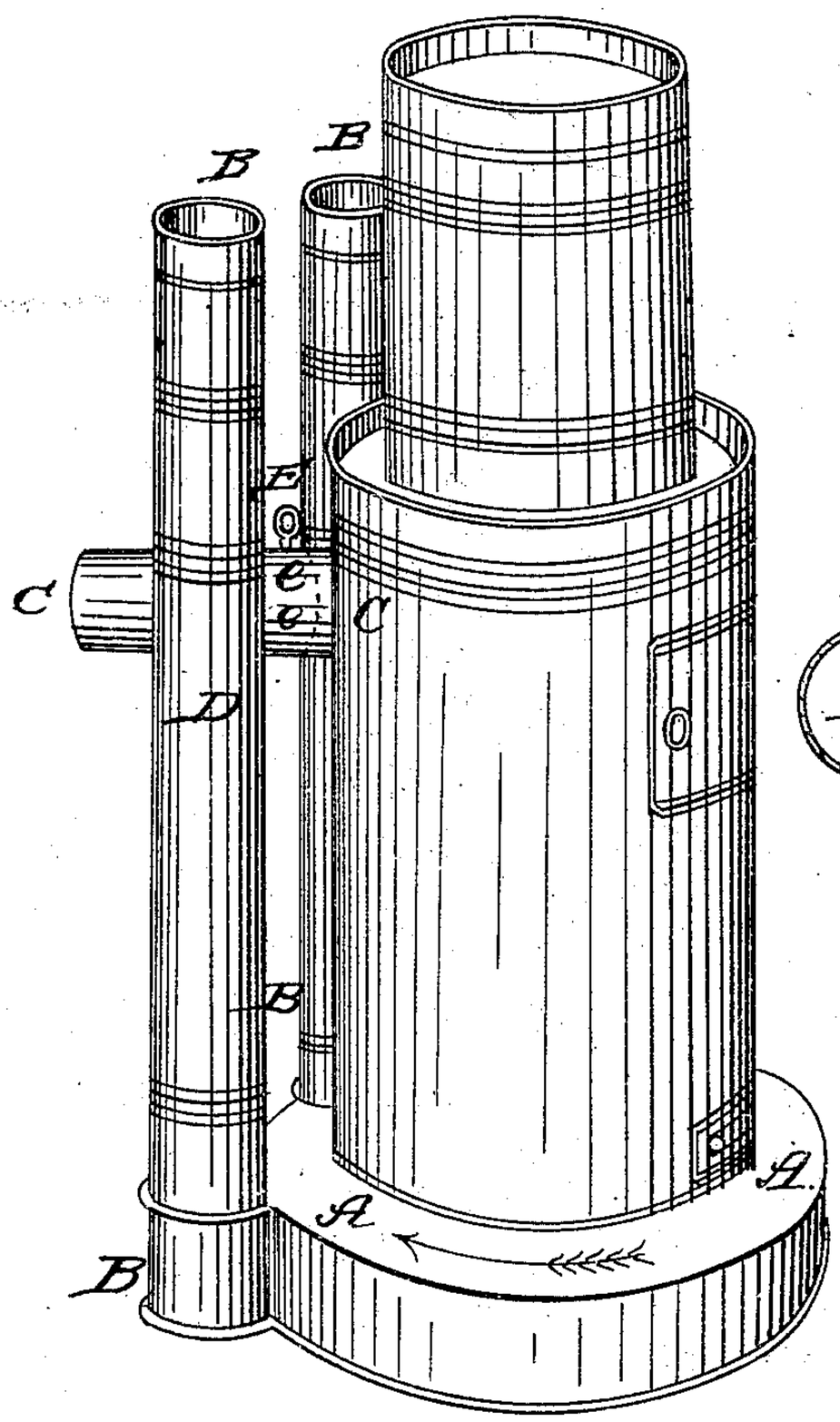
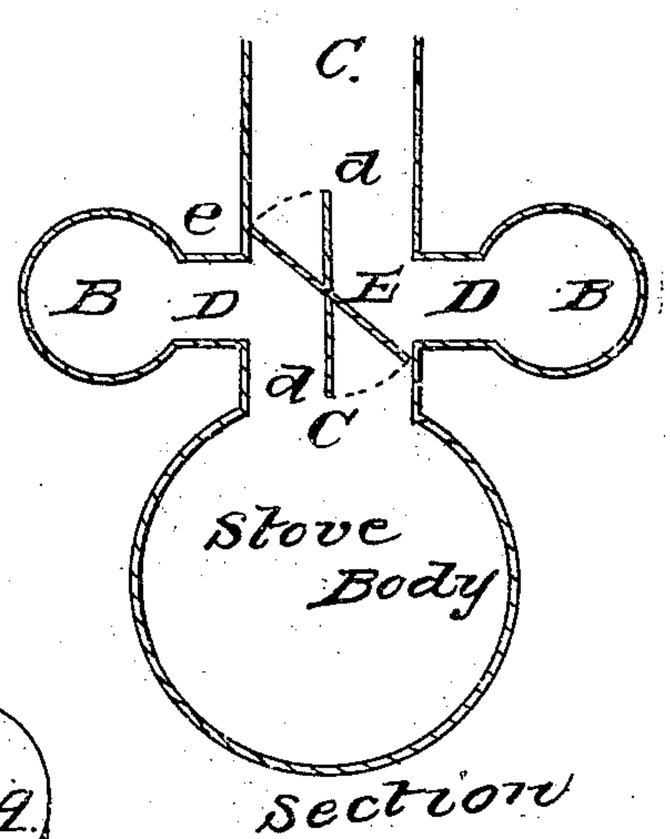
H. BUSHNELL.

Heating Stove.

No. 1,177. Patented June 21, 1839.





Section

UNITED STATES PATENT OFFICE.

HORACE BUSHNELL, OF HARTFORD, CONNECTICUT.

MODE OF CHANGING THE DRAFT OF STOVES BY MEANS OF AN ELLIPTICAL VALVE.

Specification of Letters Patent No. 1,177, dated June 21, 1839.

To all whom it may concern:

Be it known that I, HORACE BUSHNELL, of Hartford, of the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Stoves or in the Pipe and Circulation Thereof and Especially in the Pipe and Circulation of Stoves for Burning Anthracite Coal, for which improvement, together with another supposed improvement, I made application for Letters Patent in a common specification on the 10th day of May, A. D. 1836, said application having then been objected to by the Commissioner of Patents on the ground that one of the supposed improvements might be on patents already granted and leave having been given to modify the specification so as to include only the other improvements, I now offer the following specification or claim as thus amended.

In heating rooms with anthracite coal there is wanted in the first place a strong draft and to that end a passage as quick and direct into the chimney as may be convenient in order to produce a rapid ignition of the coal. There is then wanted a longer and more circuitous circulation which may be substituted for the other in order during the combustion to produce a larger exposure of heated surface and retain the heat for expenditure in the rooms. It is a great addition also to the comfort if the longer circulation be downward around the foot of the stove that the air at the bottom of the room may be heated and a good place exposed for warming the feet.

In the drawing or lithograph accompanying is presented a common cylindrical sheet iron stove standing for convenience sake upon a base or base flue A A, around which the smoke or gas circulates, passing down into it in one of the upright pipes B B and up the other. Said base flue is in fact only a square pipe bent around the stove and connecting the two pipes B B, which might be connected by a straight pipe passing directly between them, constituting thus a simple knee of pipe let down to the floor. Said base flue might as well pass around the stove in any other manner, so for example as to present the external appearance of a parallelogram instead of a circle.

Thus far is given only a common stove and a pipe for circuitous circulation, neither of which I claim as my invention. I only claim to be the inventor of the part hereinafter described which part may be used in combination therewith or with any similar construction where the smoke is to be arrested on its way into the chimney after the coal is ignited and sent downward and received back into the same pipe for discharge viz., an oblique valve set in position or applied as follows: On the back of the stove runs a short straight pipe, as often seen in stoves, passing directly into the chimney—*vide* C C, in the drawing or lithograph and section accompanying. To this on the right and left hand and directly opposite each other let two horizontal pipes D D, (only one of which is visible in the drawing,) be fitted each connecting with the upright pipes B B, before named. Now in the short pipe C C, and directly between the pipes D D, connected with the same on opposite sides, there is set an elliptical or elongated valve E, the plane of which is perpendicular which valve turns in converse axis or shortest diameter and is so long in its transverse axes or longest diameter when turned to lie obliquely across the pipe C C, as to reach forward beyond the orifice of one pipe D, on one side and backward beyond the orifice of the other pipe D, on the other side—*vide* valve standing in the position E E in drawing and section. Now when the strong draft wanted to ignite the coal, let this valve stand parallel with the pipe C C, or the sides thereof (as seen in the position *d d* in the section) and when afterward it is desired to detain the heat in the room for expenditure by giving the smoke a longer circulation, turn the valve until it lies obliquely across the pipe C C in the position *e e*. The direct passage C C from the stove into the chimney will then be cut off by the valve and the orifice of one pipe D being open before the valve and that of the other pipe D behind the valve, owing to its oblique position, the smoke or gas will flow into one orifice D down the pipe B B, around the base flue A A, up the other pipe B B into the pipe C C through the orifice D back of the valve, and thus out into the chimney. So that nothing is necessary to give the strong draft and then turn the

smoke or gas around a longer circulation but simply to turn said valve one way or the other.

I claim then no improvement in the stove itself but only the elliptical or elongated valve E constructed in the manner and for the purpose as above described, that is, to close the aperture of the pipe C C obliquely and leave the communication with cross pipe D D open on one side and closed on the other alternately.

HORACE BUSHNELL.

Witnesses:
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FRANCIS FELLOWES.