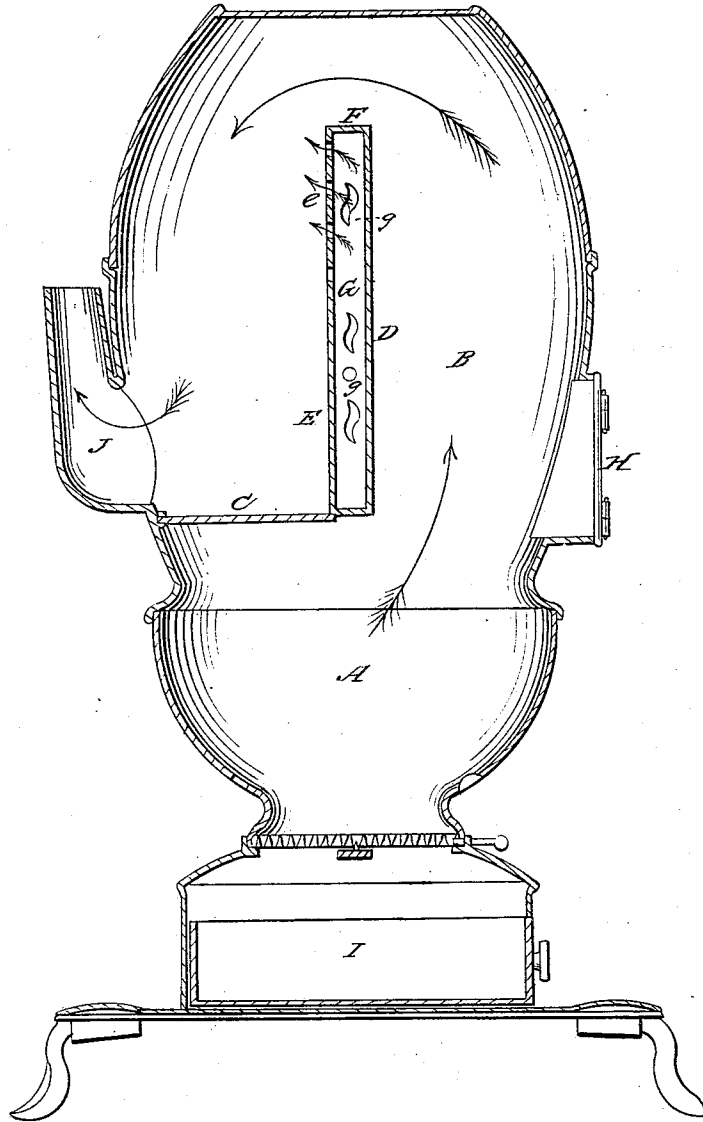


J. GROSSIUS.  
Heating Stove.

No. 68,299.

Patented Aug. 27, 1867.



ATTEST  
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JOHN GROSSIUS, OF CINCINNATI, OHIO.

Letters Patent No. 68,299, dated August 27, 1867.

IMPROVEMENT IN HEATING-STOVES.

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

TO WHOM IT MAY CONCERN:

Be it known that I, JOHN GROSSIUS, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Heating-Stoves; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification.

My invention consists in placing a suitably-shaped cold-air chamber athwart the upper part of a heating-stove, said chamber being arranged in such a manner that a constant current of cold air is flowing into it through apertures in the sides of the stove, and the air which escapes from the chamber commingles with the products of combustion, thus consuming the smoke and economizing the fuel.

The accompanying drawing is a vertical section of a "cannon-stove" provided with my improvement.

A represents the fire and B the smoke-chamber of a heating-stove, and the smoke-chamber is provided, near its bottom, with a horizontal diaphragm, C, which extends from side to side of said chamber, and reaches from the back of the stove about half way to the front. Rising from this diaphragm are two plates, D and E, and these three plates C D E and a cap, F, together enclose the cold-air chamber G, which extends completely across the stove, from side to side, and reaches almost to the top of the same. This cold-air chamber G receives its supply of air through the apertures *g*, which are pierced in the sides of the stove, and these apertures may be of any suitable number and shape. The plates C, D, and F are solid pieces of metal, while the remaining plate E is provided, near its upper portion, with a series of apertures, *e*, and the air which enters the chamber G escapes into the interior of the stove through said apertures. The stove has the customary fire-door H, ash-pan I, and collar J, to which the stove pipe is fitted, and the latter is located immediately above the horizontal plate C. It will be seen that the products of combustion which emanate from the fuel contained in the fire-chamber A are prevented from escaping directly into the smoke pipe by the interposition of the horizontal diaphragm C, and the smoke, &c., are compelled to circulate around the walls of the chamber G, and as soon as they come in contact with the air which is entering through the apertures *e*, they break into a bright flame and the smoke is consumed at once. The fire being compelled to circulate around the chamber G and descend so as to reach the exit pipe J, it will be seen that a greater heating of the shell of the stove is effected than is usual with the common cannon-stove, and the consumption of fuel is diminished in proportion.

I have described my invention as applied to a cannon-stove, but it is evident that by modifying the construction without altering the principle it could be adjusted to any heating-stove in use. The diaphragm need not be perfectly horizontal, but it can be inclined either toward or from the centre of the stove without impairing its efficiency.

I claim herein as new and of my invention—

The arrangement in a heating-stove of the plates C D E F, apertures *e g*, and exit pipe J, as and for the purpose herein described and illustrated.

In testimony of which invention I hereunto set my hand.

JOHN GROSSIUS.

Witnesses:

GEO. H. KNIGHT,  
JAMES H. LAYMAN.