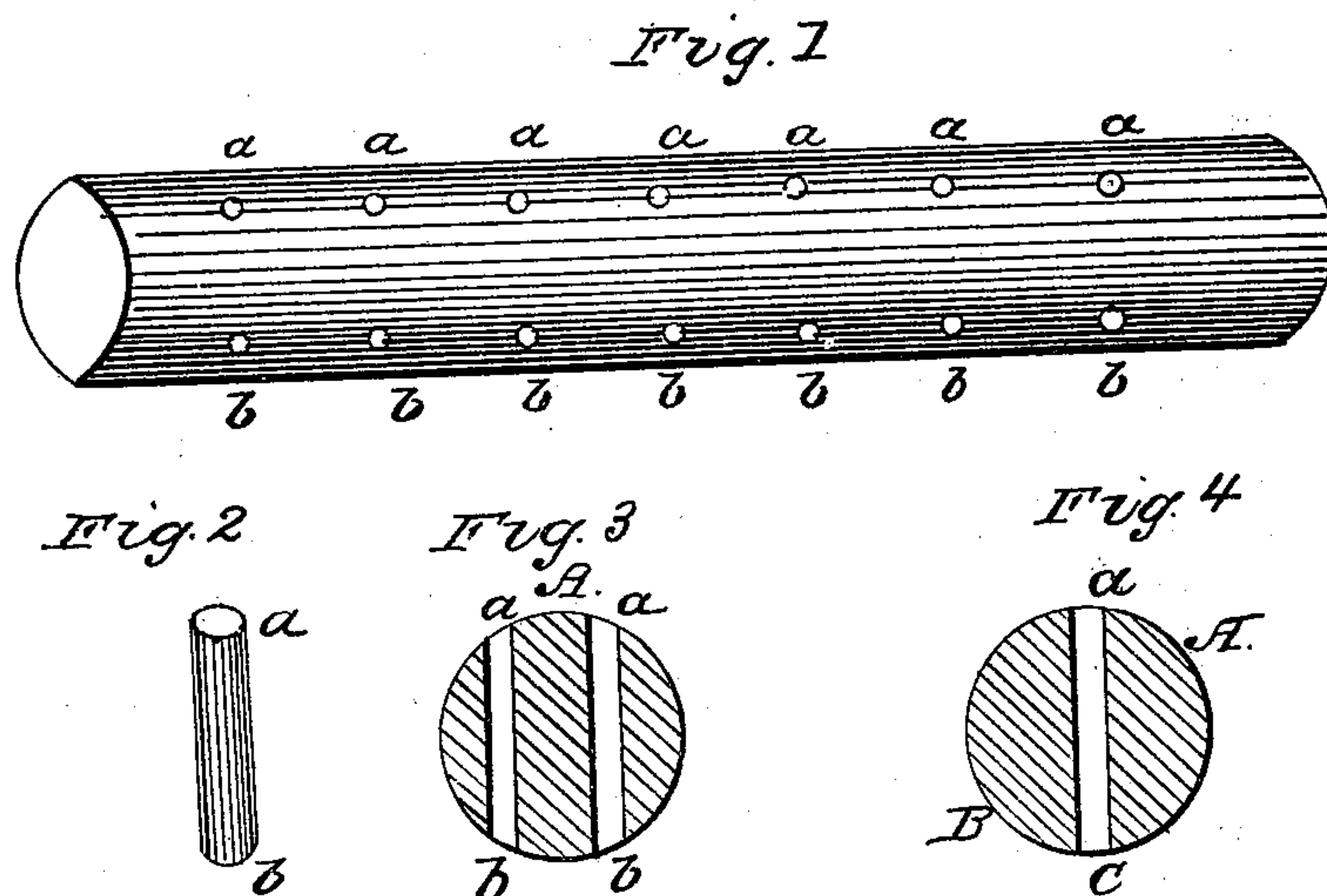


M. BRADFORD.

Heating Drum.

No. 153.

Patented March 25, 1837.



Witnesses  
Stephen Kellogg  
Judson H. Cuthin

Inventor  
Merritt Bradford.

# UNITED STATES PATENT OFFICE.

MERRITT BRADFORD, OF SAUGERTIES, NEW YORK.

## CONSTRUCTION OF STOVEPIPE AND DRUM.

Specification of Letters Patent No. 153, dated March 25, 1837.

*To all whom it may concern:*

Be it known that I, MERRITT BRADFORD, of the town of Saugerties, in the county of Ulster and State of New York, have invented a new and useful Improvement in the Construction of Stove-Pipes and Drums; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in providing stove-pipes and drums with small inserted tubes by which currents of air are allowed to pass through said pipes and drums, whereby the heat that passes off with the smoke from ordinary pipes and drums is turned to advantage in increasing the warmth of the apartment without increasing the quantity of fuel consumed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation: I construct my stove-pipes and drums in any of the known forms, but in order to avail myself of the heat that in pipes and drums of ordinary construction, passes through the middle of the pipe and is carried off with the

smoke, I insert small tubes of sheet iron, or other proper substance, at suitable distances from each other, making them fast to the pipe at its surface. If then the pipe is placed horizontally (for example) the inserted tubes will form perpendicular passages through the pipe, by which means currents of air will be established; the surrounding atmosphere, by the known laws of nature, will enter the lower extremity of the tube, become heated in its passage through the tube, and pass off at the upper extremity:—all which will be made clear by the accompanying drawings.

What I claim as my invention, and desire to secure by Letters Patent, is—

The insertion of said tubes into stove-pipes and drums, using in their construction any suitable material, and inserting them perpendicularly, horizontally or at any angle which may be desired.

MERRITT BRADFORD.

Witnessed by—

JUDSON H. CALKIN,  
DAVID BIGELOW.