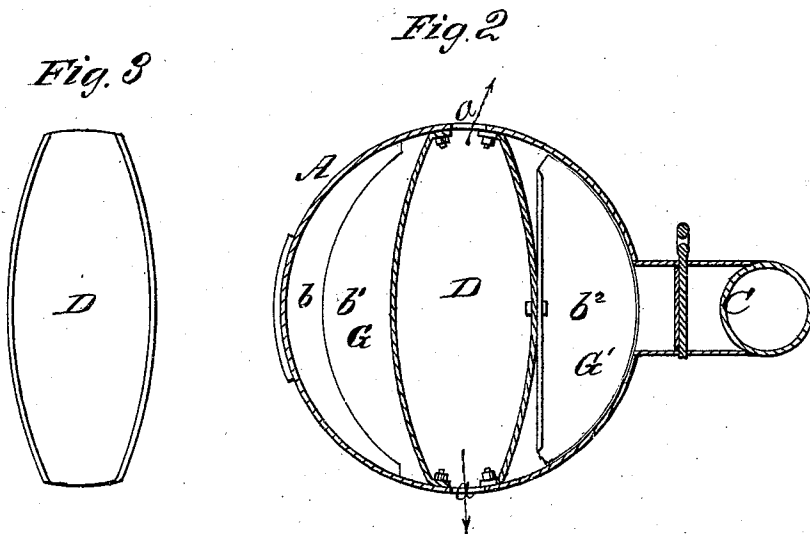
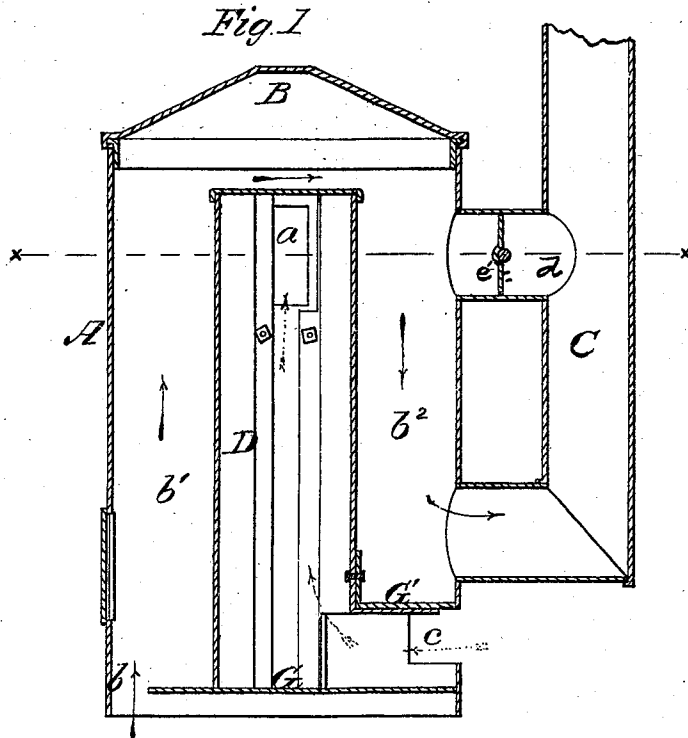


G. W. SMITH, T.  
Heating-Drums.

No. 148,516.

Patented March 10, 1874.



WITNESSES  
*Robert Everett,*  
*George C. Uphaus, By*

INVENTOR  
*George W. Smith, J.*  
*Chipman, Hooper, & Co.,*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

GEORGE W. SMITH, (T.), OF KENTLAND, INDIANA.

## IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **148,516**, dated March 10, 1874; application filed January 31, 1874.

*To all whom it may concern:*

Be it known that I, GEORGE W. SMITH, (T.), of Kentland, in the county of Newton and State of Indiana, have invented a new and valuable Improvement in Stove-Drums; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of my stove-drum. Fig. 2 is a transverse horizontal section of same. Fig. 3 is a detail view, showing the box D.

This invention has relation to stove-drums, through which heat is conducted on its way from a stove to the chimney, for the purpose of utilizing such heat for warming rooms.

The nature of my invention consists in a heating-drum having a cold-air box arranged diametrically across it inside, which forms an ascending and a descending passage for the heated products of combustion, in combination with passages for cold air to circulate through the said air-box, as will be hereinafter explained, whereby a very large heat-radiating surface is obtained in a comparatively small drum.

The following is a description of my invention:

In the annexed drawings, A designates the outer shell of the drum, which may be cylindrical and provided with a conical top, B, or it may be of any other suitable shape. The lower end of this shell A is open and adapted to fit on a stove, so that the heat therefrom will circulate through the flue-spaces  $b^1 b^2$  and escape into the chimney through the pipe C. G designates a bottom plate with a crescent-shaped opening,  $b$ , through it for the heat to

enter the flue  $b^1$ , and  $G'$  is a bottom plate to the flue  $b^2$ , between which plate and the plate G an opening,  $c$ , is made through the shell A for the entrance of cold air into a box, D. This box D rises from the bottom plate G nearly to the top B, and extends diametrically across the shell A, so as to form the two vertical flues  $b^1 b^2$ , as shown in Figs. 1 and 2. This box D is closed on top, and has two outlets,  $a a$ , leading from it through the shell A, for the escape of heated air into the room.

If desired, the opening  $c$  may be provided with a register, and the pipe C may be provided with a damper for regulating the heat.

It will be seen from the above description that the bottom plate G is subjected to the direct action of the flame and heated products, which heat will be communicated to the air as it enters the box D through opening  $c$ ; also, that the side and top walls of the box D are subjected to the products of combustion as they pass through the flues  $b^1 b^2$  to the pipe C. I thus obtain a very large radiating-surface.

When a more direct draft is desired, a pipe,  $d$ , with a damper,  $e'$ , in it, may lead from the upper end of flue  $b^2$  into the pipe C.

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

In a stove-drum for heating purposes, the inner vertical diametrically-arranged box D, provided with air inlet and outlet passages  $c a$  and forming flues  $b^1 b^2$ , in combination with the bottom plates G  $G'$  and opening  $b$ , substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE W. SMITH, (T.)

Witnesses:

MADISON NEWTON,  
JNO. B. CONNER.