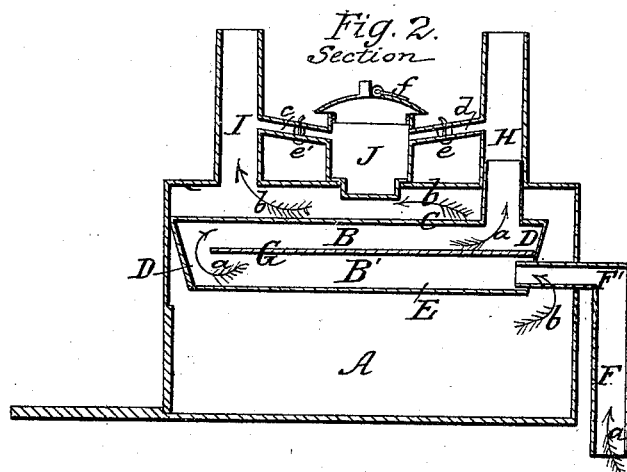
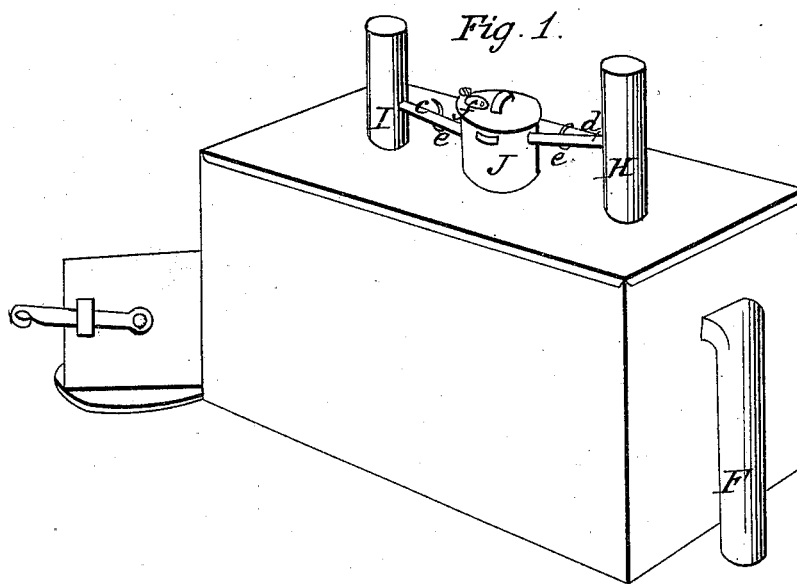


S. F. KELLOGG.  
Hot Air Furnace.

No. 2,556.

Patented April 16, 1842.



# UNITED STATES PATENT OFFICE.

SALVIN F. KELLOGG, OF NORWALK, OHIO.

## AIR-HEATING STOVE.

Specification of Letters Patent No. 2,556, dated April 16, 1842.

*To all whom it may concern:*

Be it known that I, SALVIN F. KELLOGG, of Norwalk, in the county of Huron and State of Ohio, have invented an Improve-  
ment in the Manner of Constructing an Air-  
Heating Stove, for the Warming of Apart-  
ments; and I do hereby declare that the fol-  
lowing is a full and exact description thereof.

In my air heating stove, the air that is to be warmed, and subsequently conveyed wherever it may be required, is to be conducted to the heating apparatus through a suitable tube, from any source of pure air without the apartment in which the stove is situated.

The apparatus for heating the air consists of air flues, or channels, contained within the stove immediately above the fire chamber; on its lower side, it is exposed to the direct action of the burning fuel, and over its upper side the current of heated air from the fire passes in its way to the smoke, or exit, pipe. The cool air that is admitted through the conducting pipe, passes back and forth between three plates of cast-iron, which constitute the air flues, and which extend across the stove from side to side, and it is thence conveyed, by means of a suitable pipe, or pipes, wherever it may be required.

In the accompanying drawings, Figure 1, is a perspective view of my stove, and Fig. 2, a vertical section through the middle thereof, from front to back.

A, is the fire chamber for containing the wood, or other fuel.

B, B', are the air-heating chambers, or flues, which consist of three horizontal plates, and side plates of cast iron, forming an inclosed box; the upper plate C, of this box extends from side to side of the stove. Its side and end plates D, D, slope from the top to the lower plate E, so as to expose said sides the more perfectly to the action of the fire.

F, is a conducting pipe through which the external, cool air is to be conveyed into the lower section of the air-heating chamber, as at F'. The middle horizontal plate G, serves to divide this chamber into two compartments, and to cause the air to pass toward the front of the stove and thence back toward the pipe, or tube, H, through

which the heated air is to be conveyed wherever it may be required; its course within the air chamber is indicated by the arrows *a, a*.

I, is the smoke, or exit, pipe, in passing to which the smoke and heated gases from the fire observe the course indicated by the arrows *b, b*.

To supply the requisite quantity of moisture to the heated air, as well as for other purposes, I employ a large boiler J, which is closely fitted to a boiler hole in the top plate of the stove; and from the upper part of this boiler two tubes *c*, and *d*, lead into the air and smoke pipes H, and I. In each of these tubes there is a valve *e, e'*, by which the passage of steam to either of those pipes may be regulated and governed. The lid of this boiler is to fit closely, like that of a digester, and is to be furnished with a valve as at *f*. By this arrangement any desired quantity of vapor may be passed into the heated air pipe H; or it may be allowed to escape into the stove room through the valve *f*, or into the smoke pipe through the tube *c*. In forming my air-heating chamber, I cast the bottom plate E, and the sides in one piece, providing suitable ledges for the plate C, and G, to rest upon, and these I secure in place by means of fire clay, or other suitable cement, so as to render the joinings air-tight; this being essential to the proper action of the instrument.

Having thus, fully described the construction of my air-heating stove, and shown the manner in which the same operates, I do hereby declare that I do not claim the conducting of cold air into an air-heater to be warmed, nor the subsequent conveying of the air so heated to distant apartments, this having been frequently effected, and by means of apparatus constructed in a variety of ways; but I limit my claim to the particular manner herein described, in which I have combined and arranged the stove, the air-heating chambers, or flues, and the boiler, with their appendages, as above set forth; that is to say,

I claim—

1. The manner of forming the air-heating chamber, or flue, B, B', and of arranging it within the stove, so as to occupy the whole width thereof, and to have its upper and

lower plates, and its sides, exposed to the direct action of the fire, or to that of the heated air immediately escaping therefrom.

2. I claim, also, the manner of combining  
5 the boiler, the heated-air pipe H, and the smoke pipe I, by tubes leading into each, the respective parts being governed by

valves, in the manner, and for the purpose, above set forth.

S. F. KELLOGG.

Witnesses:

THOS. P. JONES,  
M. JONES.