

M. MEAD.
Hot-Air Furnace.

No. 70,347.

Patented Oct. 29, 1867.

Fig: 1.

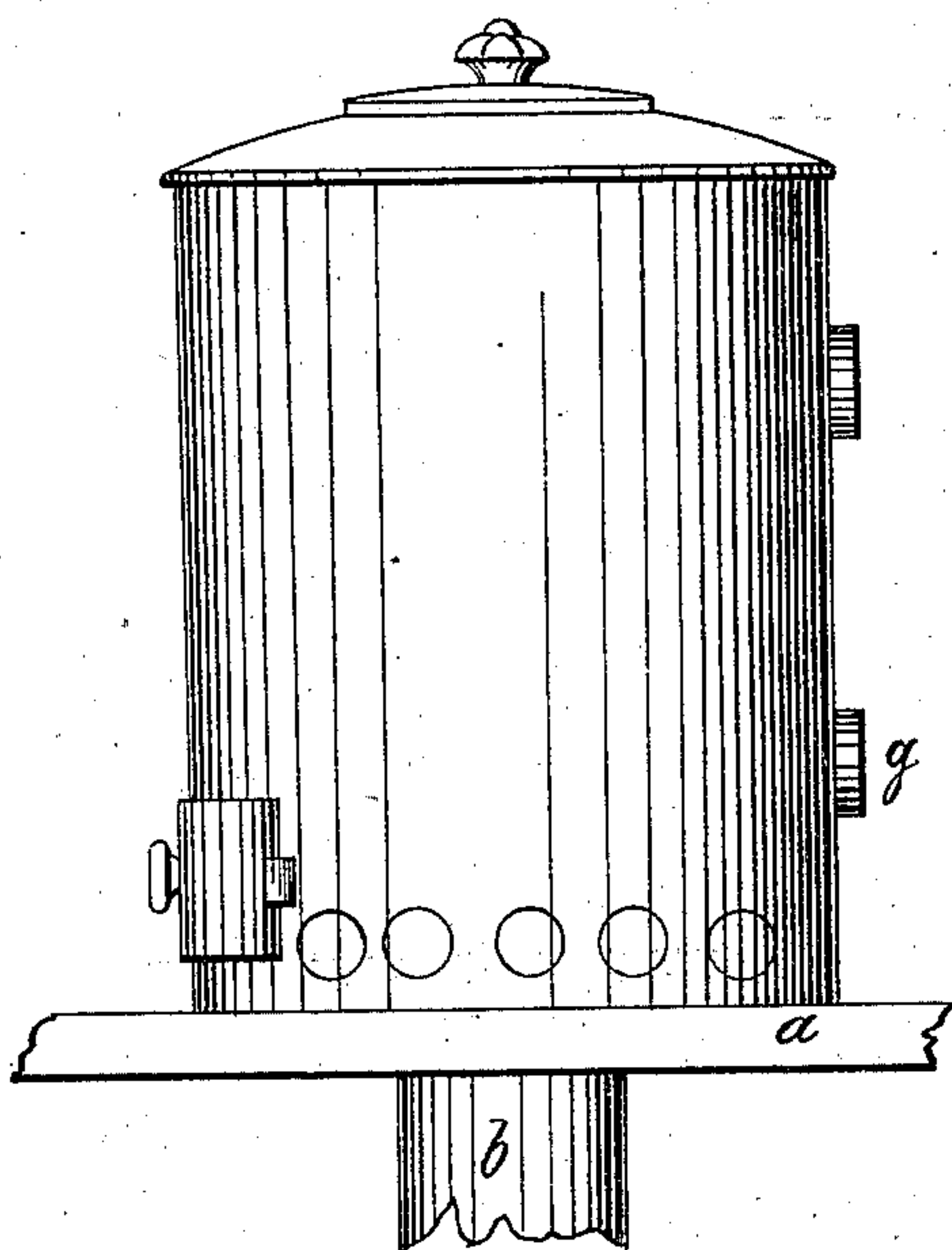
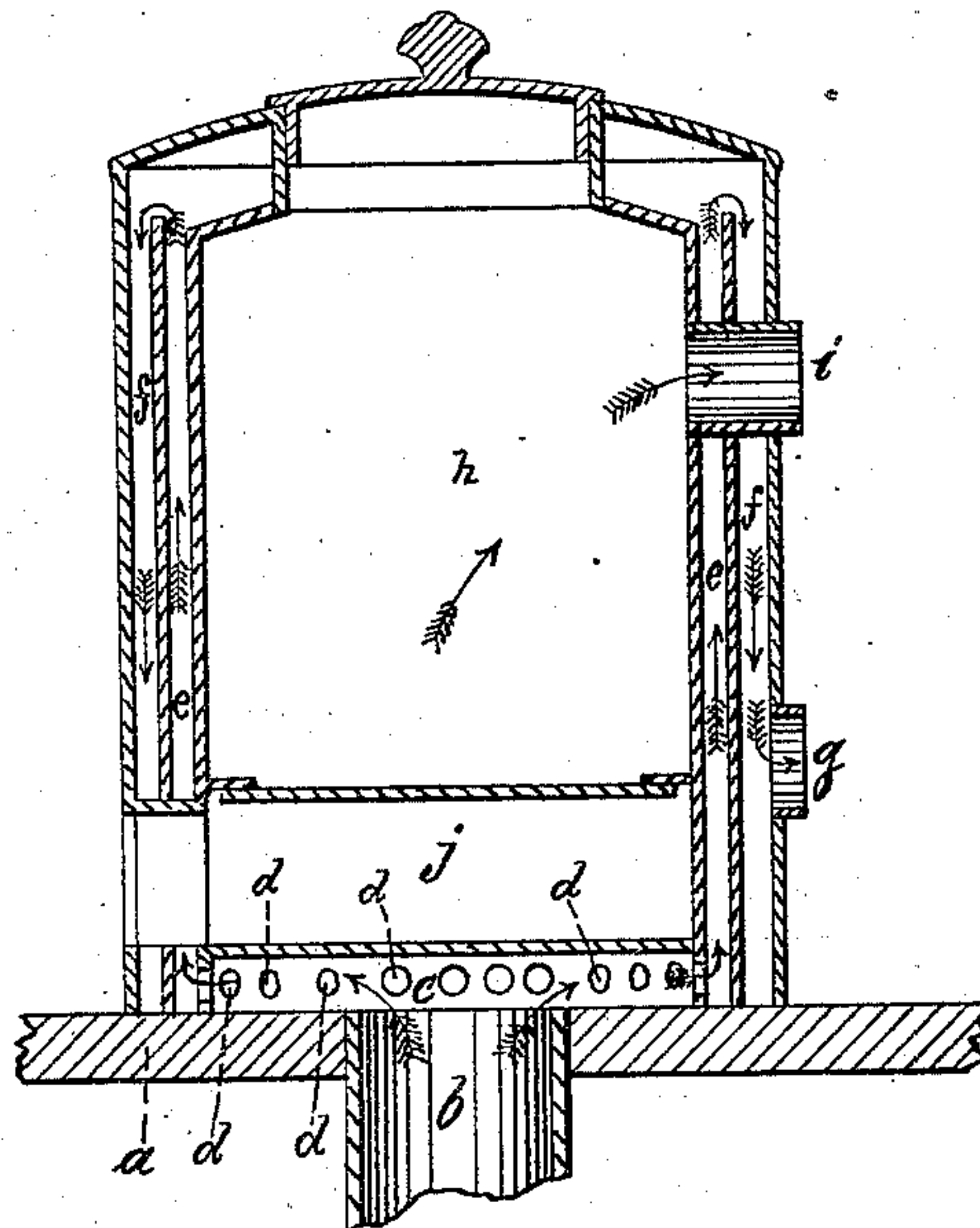


Fig: 2.



Witnesses.
Geo. E. Perry
Abel Perry

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United States Patent Office.

MATTHIAS MEAD, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 70,347, dated October 29, 1867.

PORTABLE RADIATING FURNACE.

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

TO ALL WHOM IT MAY CONCERN.

Be it known that I, MATTHIAS MEAD, of Lowell, in the county of Middlesex, and State of Massachusetts, have invented new and useful improvements in Radiating Portable Furnaces; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing for a portable furnace a chamber in under the ash-box, in connection with a supply pipe through the floor, for the purpose of introducing foreign air.

It also relates to the distributing of this foreign air, received into the chamber at the bottom, through conducting-holes, into the inner continuous vacuum, thence passing up and down through the outer continuous vacuum into a conducting discharge pipe.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 represents a side elevation of my improved radiating portable furnace.

Figure 2 represents a vertical section of the same.

a represents the floor, *b* the supply pipe, *c* the chamber, *d d* the conducting holes, *e* the inner vacuum or flue, *f* the outer vacuum or flue, *g* the conducting discharge pipe, *h* the fire-box, and *i* the smoke pipe.

To secure and perpetuate health, the introduction of pure or foreign air into our houses is of the utmost importance, especially if it can be conducted instantly in any room or rooms required. By foreign air I mean air taken from any pure source or place, either from outside of the building or from any room or rooms in the house where the air is not impure. In my improved radiating portable furnace this desired object is fully attained as follows:

The fire-box *h* in the furnace being sufficiently supplied with wood or coal, and fired up, the smoke, gases, or vapors pass off out of the smoke pipe *i*, the foreign air is draughted up through the conducting pipe *b*, through the floor *a*, into the chamber *c*, under the ash-box *j*. It then passes through the conducting holes *d d* into the heated inner vacuum or flue *e*, thence up and down through the outer vacuum *f*, through the conducting pipe *g*, into any desired room or rooms or apartments in the house, and, it will be seen in fig. 2, the arrows in the flues *e* and *f* indicate the direction of the heated air. In some cases it is desirable to retain all of the heated air in the room where the furnace is located. When this occurs I dispense entirely with the conducting pipe *g*, and perforate the outside case at the bottom with suitable holes, which conducts the heated air through these holes into the room. These holes are indicated in fig. 1 by red lines.

Thus it will be seen by this arrangement pure foreign air is heated and conducted into the room, and close down to the floor, constantly and continually supplying the room, driving off the impure air which may be generated by the inmates of the room, which aids the health and conduces to the comfort of those who occupy the same. Besides, other rooms in any part of the house can be furnished with this pure heated element, to any degree of heat desired, with the same furnace; all of these advantages resulting in the saving of fuel, the expense of extra stoves, and above all, and more than all, the preservation of health.

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

I claim the arrangement of the continuous vacuum or flues *e* and *f*, for the purpose of heating foreign air and distributing it into any room or rooms, substantially as described, and as herein specified.

MATTHIAS MEAD.

Witnesses:

GEO. E. PEVEY,
ABIEL PEVEY.