H. C. CASSEL.

STOVE.

No. 172,088. Patented Jan. 11, 1876.

FIG. 1.

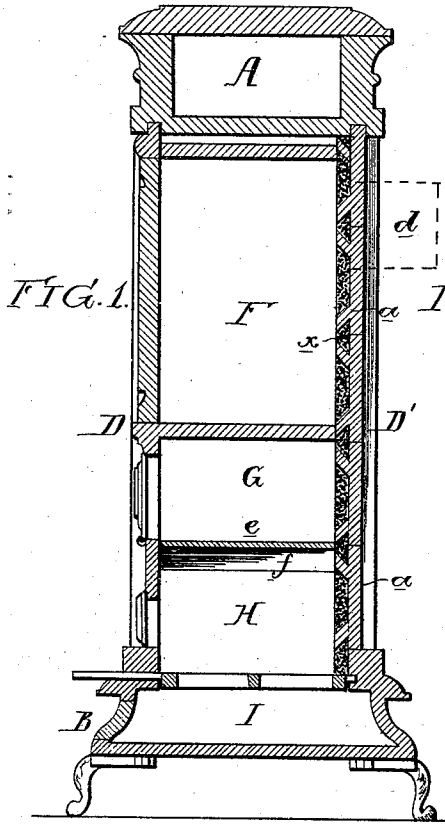


FIG. 2.

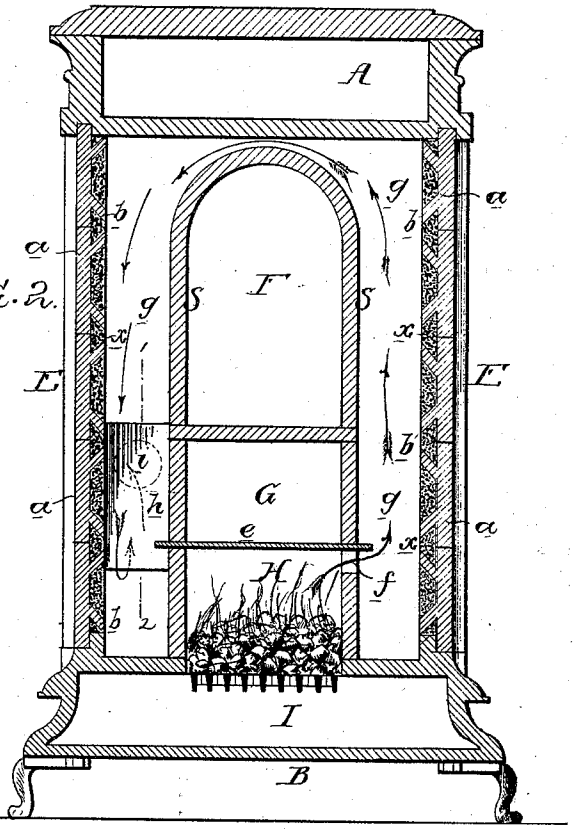


FIG. 3.

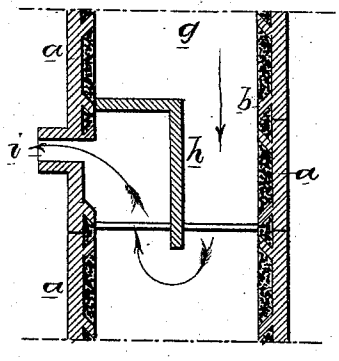
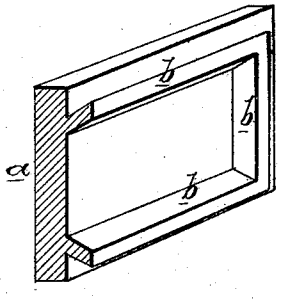


FIG. 4.



Witnesses,
Harry Howson Jr.
Harry Smith

Henry C. Cassel
by his Attorneys
Howson and Son.

UNITED STATES PATENT OFFICE.

HENRY C. CASSEL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **172,088**, dated January 11, 1876; application filed December 11, 1875.

To all whom it may concern:

Be it known that I, HENRY C. CASSEL, of Philadelphia, Pennsylvania, have invented an Improved Stove, of which the following is a specification:

My invention relates to certain improvements in the construction of stoves of clay; and the objects of my invention are to facilitate and improve the construction of stoves of this class, and to afford an extended air-heating surface.

These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figures 1 and 2 are vertical sections of my improved stove; and Figs. 3 and 4, detached views, illustrating some of the features of my invention.

A is the top, B the bottom, D D′ the front and back, and E E′ the opposite sides of the stove, all composed of baked clay, terra-cotta, or other equivalent material, which will heat the air without imparting to it that objectionable character which is imparted to air brought into contact with metallic surfaces. The front, back, and sides of the stove are composed of blocks *a*, on the inside of each of which are inclined flanges *b*, so that when a number of the blocks are placed together to form one of the walls of the stove, a dove-tailed recess will be formed at the joints. These recesses are filled with cement, *x*, which, upon the application of heat, becomes hard and binds the blocks firmly together. The space at the back of each block *a*, inside the flange *b*, may also be filled with the cement, in order to render the wall of the stove more homogeneous.

The cement used should be of a compressible nature, so that its expansion by heat shall not disturb the flanges of the blocks. I prefer to employ a cement composed of about equal parts of clay, gravel, and bran, the latter element, in this case, being compressed when the former elements are expanded. Any compressible cement may, however, be used.

Within the stove is, in the present instance, an air-heating chamber, F, cooking-oven G, and fire-place H, an ash-chamber, I, being formed in the bottom of the stove.

The casing S, which incloses the chamber F, oven G, and fire-place H, is made of a material similar to the casing of the stove, so that air may be heated in the chamber F to be used in addition to that radiated from the surface of the stove, for heating the room in which the latter is situated; or it may be carried off through a pipe, *d*, (shown in dotted lines, Fig. 1,) to an adjacent room.

Immediately over the fire-place H, and between it and the heating-chamber F, is arranged the oven G, which has a metal bottom plate, *e*, so that the products of combustion, impinging directly upon the under side of this plate, will facilitate the rapid heating of the oven, without interfering with the proper heating of the air for warming purposes. Both the oven G and fire-place H have in front suitable doors.

The products of combustion pass through an opening, *f*, in one side of the casing S, into a flue, *g*, between said casing and the outer casing of the stove, and make the entire circuit of said flue around the oven G and chamber F, and finally, after passing under the lower edge of an angular partition, *h*, (see Fig. 3,) escape from the opening *i* into the exit-pipe.

If desired, the oven G may be dispensed with, and the heating-chamber F extended entirely to the fire-place.

It will be evident that a stove of any desired size can be readily built up in the manner described, and can be easily repaired, while ample facilities are afforded both for heating air and for cooking, the products of combustion passing over such an extended surface, before escaping, that their heating properties are fully utilized.

I claim as my invention—

1. A stove the casing of which is composed of a series of clay blocks, *a*, having inclined flanges *b*, all substantially as and for the purpose set forth.

2. The combination of the fire-place H and exit-opening *i* of the stove with the flue *g*,

formed between the inner and outer casings of the stove, and communicating with the fire-place through the opening *f*, all as specified.

3. The oven G, provided with a metal bottom plate, *e*, and interposed between the fire-place H and heating-chamber F, having walls of clay, all as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY C. CASSEL.

Witnesses:

HARRY HOWSON, Jr.,

HARRY SMITH.