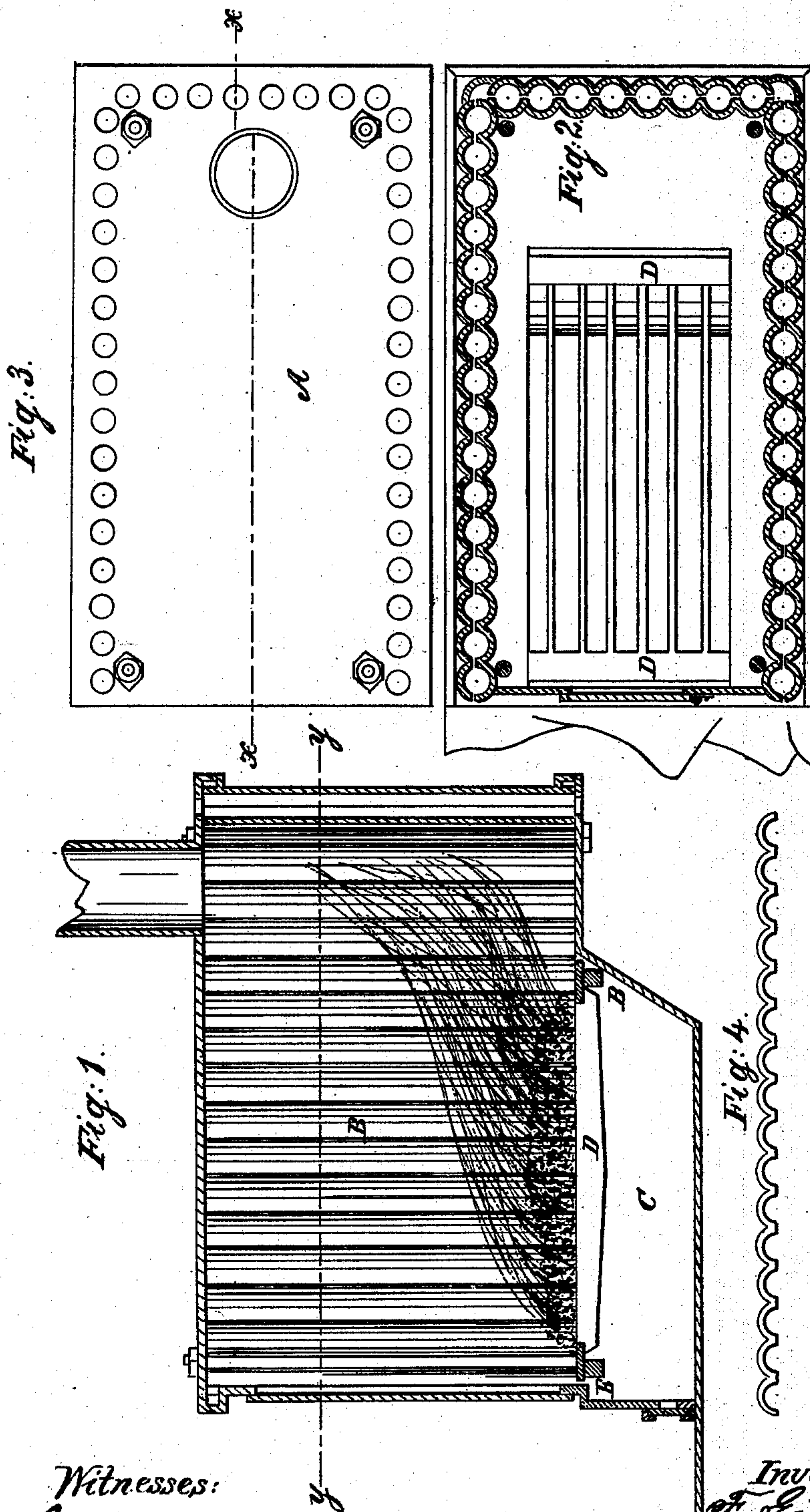


F. GILMAN.
Heating Stove.

No. 68,731.

Patented Sept. 10, 1867.



Witnesses:
Chas. Cuscke
Wm. Trevis

Inventor:
F. Gilman.
per Wm. C. ...
attorneys

United States Patent Office

F. GILMAN, OF MINNEAPOLIS, MINNESOTA

Letters Patent No. 68,731, dated September 10, 1867, antedated September 4, 1867.

COAL-STOVE.

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, F. GILMAN, of Minneapolis, Hennepin county, Minnesota, have invented an Improvement in Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to the manner in which the sides and end plates of the stove are formed, and the invention consists in constructing the sides and end, and also the top and bottom plates of the stove, in such a manner that a series of vertical air-tubes shall surround the stove, and also in the arrangement of the ash-pit and grate, in combination with a heating-stove, in the manner hereinafter described.

Figure 1 represents a longitudinal section of the stove through the line *xx* of fig. 3.

Figure 2 is a horizontal section through the line *yy* of fig. 1.

Figure 3 is a plan or top view.

Figure 4 shows an edge view of one of the side plates.

Similar letters of reference indicate corresponding parts.

The principal feature of my invention is in providing for the passage of currents of air through channels formed by the side and end plates of the stove in the manner hereinafter set forth, thus increasing the heating surface of the stove to a very great extent. For this purpose I construct the side plates and the back end plate each of two separate pieces, either of cast or sheet iron. In either case each half of the vertical plates named is corrugated, so as to form a series of grooves or channels extending across their width or height. When two of these plates are put together the grooves or channels so coincide, and their edges match, that tubes will be formed. It is not important that these tubes should be round. The sides may be so cast or made that square, or angular, or any other shaped holes may be used. The lower edges of these side plates are fitted in the usual manner within a flange cast or formed on the bottom plate, and the upper edges are fitted in like manner within a flange on the under side of the top plate. Through the bottom and also through the top plate of the stove there are holes to correspond with the tubes formed as above by the sides and end plates, so that the currents of air pass from under the stove upward through the heated sides, and are discharged in a highly heated state above the stove.

A represents the top of the stove, and B the sides, as the stove appears when complete. The stove is put together in the usual manner. The novelty consists in providing for currents of air to pass upward through the heated sides, as heretofore described, and in the arrangement of the ash-pit and grate. C represents the ash-pit, and D the grate. For the purpose of overcoming many of the difficulties incident to the use of the common heating-stove, I attach a deep ash-pit to my stove and place a grate above it, which grate is removable. E represents bars, upon which the grate rests, at each end of the fire-place. The width of the grate and ash-pit is shown in the horizontal section, fig. 2. It will be seen that this arrangement does not in any manner interfere with the formation of the sides and other plates of the stove, as already described.

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

1. Constructing the side and end plates of a stove in two parts each, in such a manner that when the parts are put together air-tubes or apertures shall be formed between them, substantially as herein described.

2. The construction and arrangement of the perforated top and bottom plates, and channelled or corrugated side plates, as herein set forth for the purpose specified.

3. I also claim the sunken ash-pit and the grate, in combination with a heating-stove, constructed and arranged substantially as shown and described.

The above specification of my invention signed by me this twenty-ninth day of August, 1866.

F. GILMAN.

Witnesses:

I. ORLIN HAYDEN,

A. W. LATHAM.