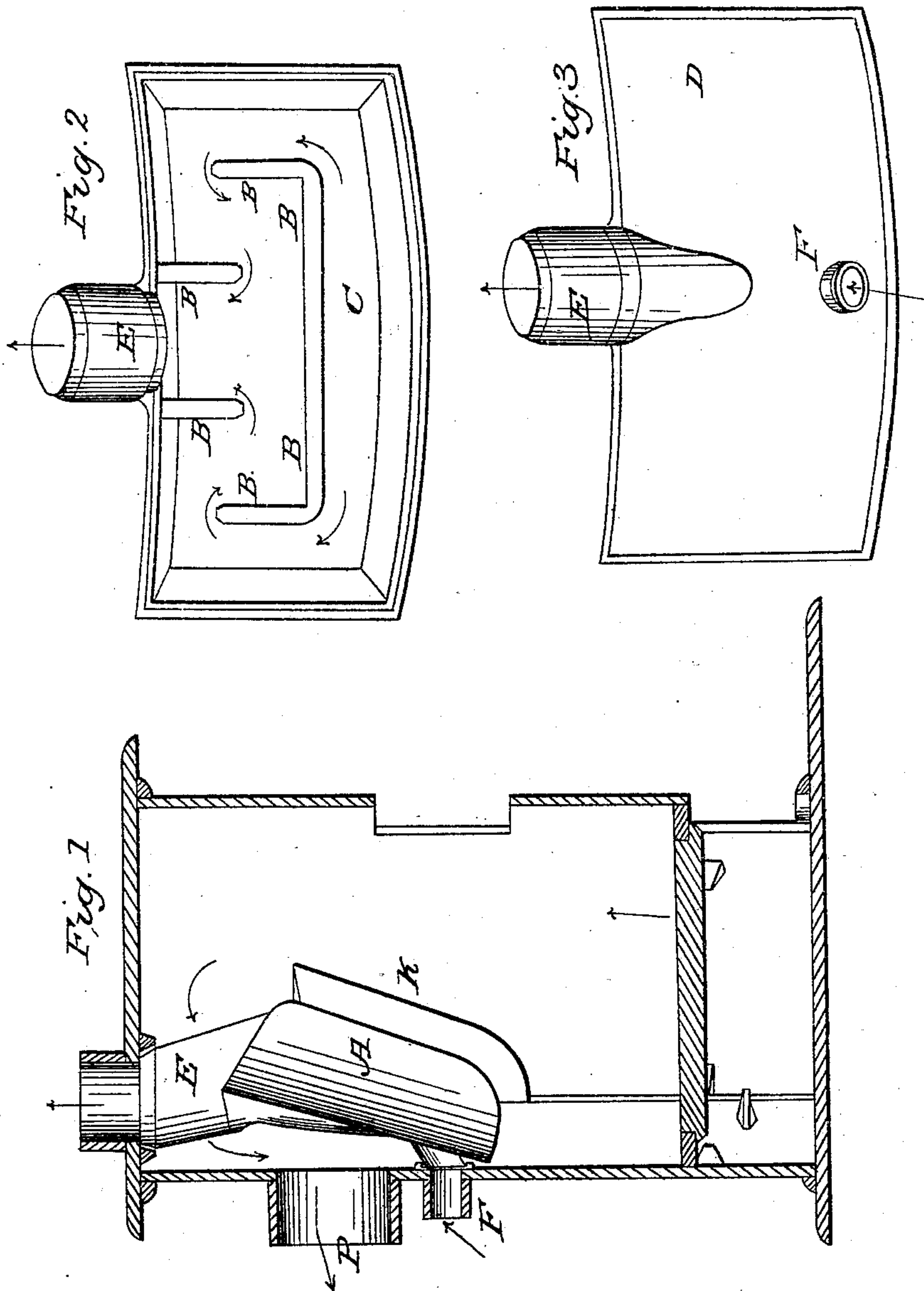


D. STUART.

Stove.

No. 22,518

Patented Jan'y 4, 1859.



WITNESSES
A. H. Perkins
D. Magell.

INVENTOR
David Stuart

UNITED STATES PATENT OFFICE.

DAVID STUART, OF PHILADELPHIA, PENNSYLVANIA.

FRANKLIN STOVE.

Specification of Letters Patent No. 22,518, dated January 4, 1859.

To all whom it may concern:

Be it known that I, DAVID STUART, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented
5 an Improvement in Franklin Stoves, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the usual manner of
10 making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is a vertical middle section from back to front of the stove showing the air
15 chamber A entire. Fig. 2 is a plan of the front and main portion of chamber A and Fig. 3 is a plan of the back portion of said chamber.

My invention consists in an improvement
20 in Franklin stoves described and represented as follows:

In the construction of Franklin stoves in the usual way the plate forming the fire back is generally warped, cracked or de-
25 stroyed long before other plates of the stove are injured by the heat of the fire. There is also a great amount of heat lost in consequence of the non conducting space between the fire back and the back plate of the stove.
30 These two defects I have remedied by the introduction of the air heating chamber A in such manner that while it forms the fire back, it preserves the same from excessive heat and utilizes what was before waste
35 heat to a great extent. This chamber is formed by casting, in two parts C and D; the part C forming the main portion of the walls of the chamber and the part D forming the back plate or wall of the chamber
40 and fitting closely within the raised edges or flanges around C. On plate C are cast projecting ledges B the office of which is to cause the air which passes through the

chamber to be distributed throughout the same these ledges extending from plate C 45 to plate D. On the upper part of the chamber is a pipe E which passes through the top plate of the stove, and near the lower part of the chamber is a pipe F which admits the cool air of the room into the cham- 50 ber. When the stove is put up the air chamber is let down and supported upon the ledges K, the pipe F passing out through an aperture in the back plate of the stove and the pipe E passing through the top 55 plate. The escape pipe P is so situated that the draft passes over a portion of the back of the chamber A and thereby contributes to equalize the distribution of heat and at the same time increase the heating capacity of 60 the chamber. The constant current of air over the plate forming the fire back prevents its warping, cracking or burning out, and the heat absorbed therefrom and imparted to the air from this and the back wall of 65 the chamber is all utilized.

I do not claim forming an air space or chamber in which air circulates behind or in contact with the fire backs of stoves and passes thence in a heated condition into the 70 apartment as that has long been known and used, but

What I do claim as my improvement in Franklin stoves is—

Forming the fire back of such stoves by 75 the front wall of a cell or chamber around or on both sides of which the draft passes and through which the air circulates as set forth said cell or chamber being constructed and connected with the stove in the manner 80 set forth.

DAVID STUART.

Witnesses:

P. MAGEE,
A. H. PERKINPINE.