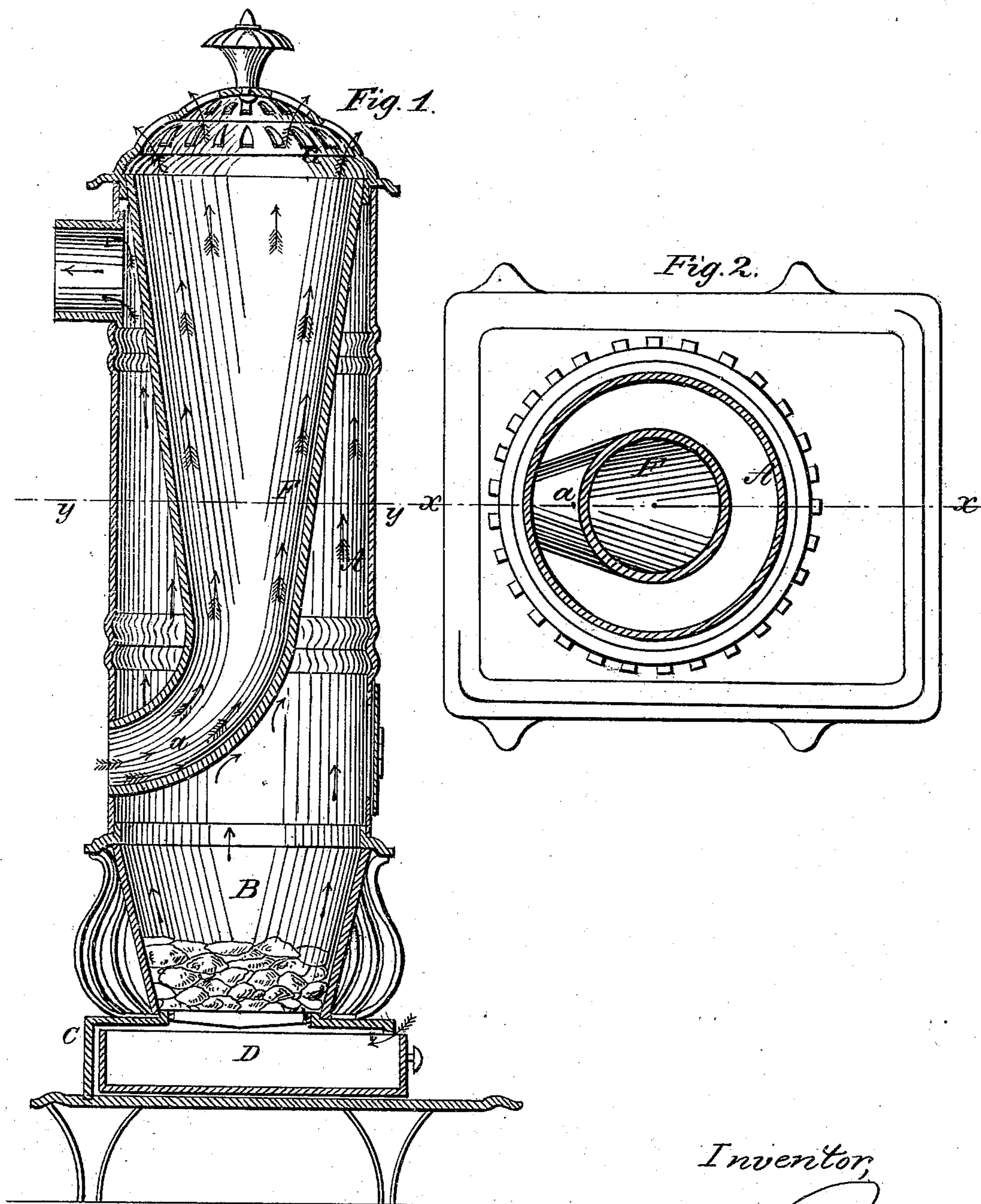


W. F. BEECHER.

Heating Stove.

No. 33,127.

Patented Aug. 27, 1861.



Witnesses,
J. W. Leavitt
R. S. Spruce.

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UNITED STATES PATENT OFFICE.

WM. F. BEECHER, OF CHICAGO, ILLINOIS.

STOVE.

Specification of Letters Patent No. 33,127, dated August 27, 1861.

To all whom it may concern:

Be it known that I, WILLIAM F. BEECHER, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Stoves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical central section of my invention taken in the line *x, x*, Fig. 2. Fig. 2, a horizontal section of ditto, taken in the line *y, y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improvement in that class of stoves in which an air-heating and radiating stove are combined; or, in other words, those stoves which are provided with an air-heating chamber or passage in close contact with the fire chamber and so arranged as to take cold air from the lower part of the room and discharge heated air from its upper part.

The invention consists in having an inverted conical air-heating chamber placed within the stove and extending from the lower to the upper part of the latter, the lower end of the air-heating chamber being curved and projecting through the side of the stove and the upper end secured to the top of the stove and closing the upper end of the same, whereby it is believed that a more efficient combination than usual of an air-heating and radiating stove is obtained.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents the body of a stove which may be of cylindrical or other form. B, is the fire-chamber, C, the base which contains the ash-drawer D, and E, the smoke pipe or flue. These parts may be constructed in the usual way and therefore do not require a minute description.

F, is an inverted conical chamber or air-heating chamber which is fitted within the body A, of the stove and extends from just above the fire-chamber B, to the top of the body A. The lower part *a*, of the chamber

F, is curved and extends through the side of body A, to communicate with the external air and the upper end of said chamber just fills the top of the body A, and closes it. The upper end of the chamber F, is provided with a perforated cap G, as shown in Fig. 1.

The air-heating chamber F, may be of cast-iron, the body A, of sheet-iron, and the fire-chamber B, of cast-iron or sheet-iron with a fire-brick filling.

When a fire is kindled in the stove, the chamber F, will be heated and a draft or current of air will pass through the chamber F, and be heated in said chamber and discharged in a heated state from the upper end of chamber F. The conical form of F, insures a good draft or current of air through it, and also owing to its capacity absorbs the heat in the body A, so that none of any consequence can escape into the smoke pipe or flue E.

Air-heating chambers or passages have been placed in stoves, but so far as I am aware they have either extended through the fire chamber greatly contracting it, or have been placed at the upper part of the body A, and have proved to be quite inefficient and comparatively expensive. My improvement it will be seen may be applied at a small cost not materially augmenting the cost of an ordinary cylinder or other radiating stove. Another advantage of my improvement is that the conical form of the air chamber allows the fire to strike directly, or "shine" upon the surface of the air chamber, from top to bottom, thus exposing a far greater area of surface to the action of the fire, than would be the case if the sides of the air chamber were perpendicular—which is the common construction. I also obtain a further advantage by having the lower end or bottom of the air chamber curved, or made in arched form. This form presents the greatest amount of strength at that part where the most strength is needed; viz., the parts nearest the fire. In other stoves the bottom of the air box is generally horizontal, being made of a disk. Such bottoms are liable to crack and drop out, by exposure to great heat.

I do not claim broadly the employment or use of an air-heating chamber in a radiating stove for that has been previously applied to stoves and arranged in various ways; but,

5 I do claim as new and desire to secure by Letters Patent:

The arrangement of the curved conical air

chamber F, with the stove body A, and fire chamber B, in the manner herein shown and described.

WM. F. BEECHER.

Witnesses:

SIMEON MEARS,

ELISHA ASHLEY MEARS,