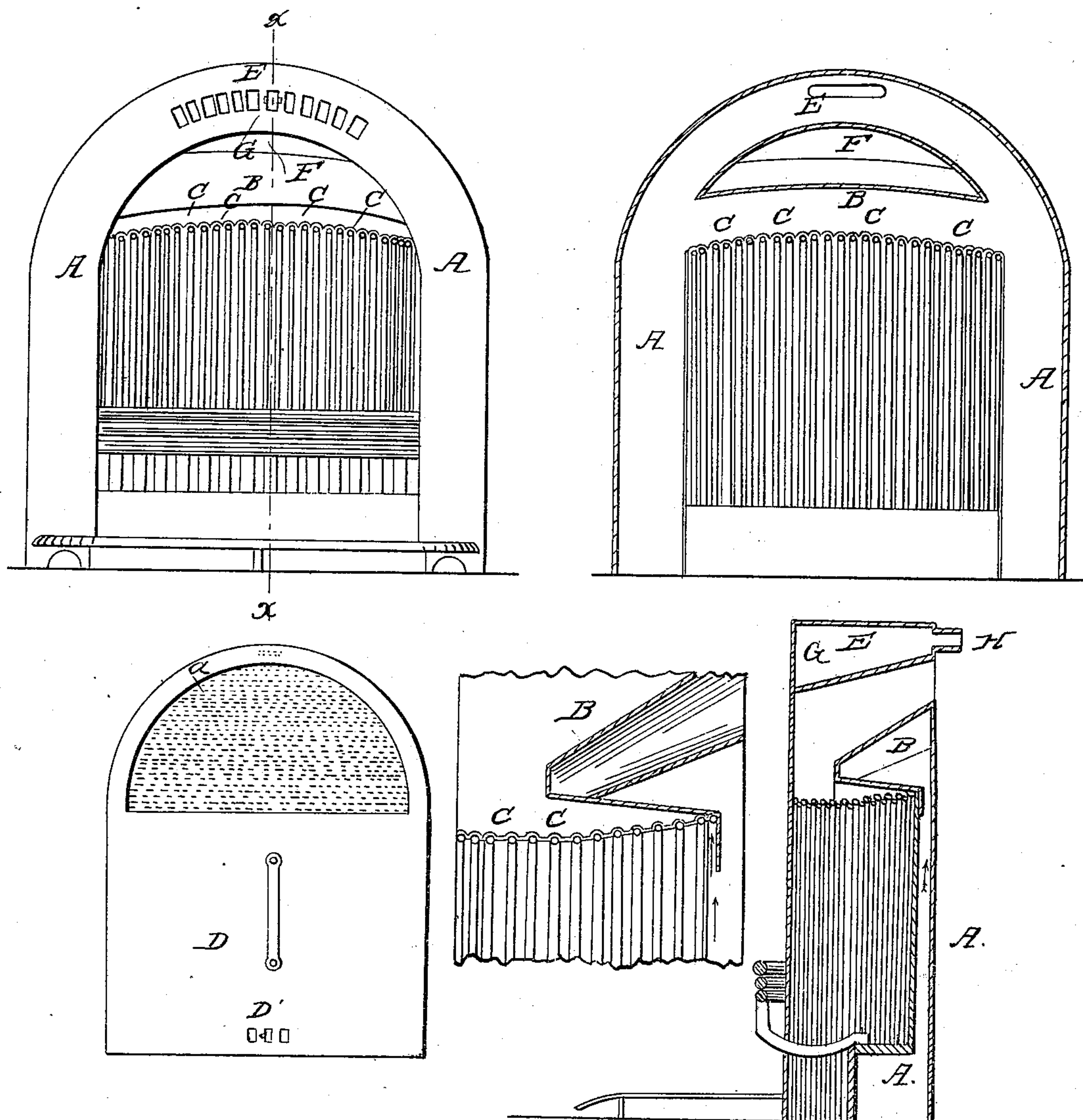


BACON & JENNINGS.

Fire Place.

No. 40,989.

Patented Dec. 22, 1863.



Witnesses
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UNITED STATES PATENT OFFICE.

A. C. BACON AND J. G. JENNINGS, OF CLEVELAND, OHIO.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. 40,989, dated December 22, 1863.

To all whom it may concern:

Be it known that we, A. C. BACON and JOHN G. JENNINGS, of the city of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Fire-Places; and we do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front view. Fig. 2 is a vertical section. Fig. 3 is a transverse vertical section in the direction of the lines *xx* in Fig. 1, and Fig. 4 is a view of the blower.

Our invention relates to an improved register fire-place, which, by a combination of air-chambers, forms an open grate of increased radiating power, either for a chimney or stove, and that will also furnish the hot-air draft of a register. The chamber A is made to extend around the back and sides of an ordinary or open grate, into which chamber air is admitted from below. From the top of the fire-back the arched chamber B, connecting with the chamber A, is made to project over the fire, which, by its form and position, concentrates the heat beneath, thus increasing its radiation and the temperature of the air within. Along and beneath the lower margin of this arch are apertures *c c c* for the egress of air from the chamber into the flame. The front or blower, Fig. 4, is provided in its upper section with small perforations, (seen at *a*,) and which, in combination with the apertures *c* and front blower, D, serve to cause a more complete combustion of the smoke and gas, and to intensify the heat in the chamber above. From the sides of the grate a third air-chamber, E, connected with the chambers A and B, extends over the arch of the smoke-flue F, from which heated air is conducted through the register G into the room, or by closing this register the hot-air may be conveyed through the hot-air flue H upon the back side of the chamber E, and thence into an adjoining room or into an upper room, as may be desired. The blower D fits closely to the hearth and jambs, and is provided at the bottom with a sliding damper, D', which is to be opened when a strong draft is required, but when the coal or other fuel becomes properly ignited the

damper D' may be closed. The perforations *a* in the upper section of the blower D are sufficiently small (from a tenth to a twentieth of an inch in diameter) to prevent the ingoing current of air from deflecting the rising current of gas from the burning fuel, but still large enough to admit a sufficient quantity of air to cause, in conjunction with that which enters through the apertures *c c c*, a complete combustion of the gas. Thus, by the relative positions of the air-chambers A, B, and E, and the agency of the apertures *c* and perforations *a* in the blower D, the greatest radiating power of the grate is obtained, while the air, in passing successively through the chambers named, becomes charged with the greatest available heat possible before it issues from the register G or is conveyed to another room by the hot-air flue H.

This fire-place may be used as a stove by attaching a suitable smoke-pipe to the opening F, or it may be set as an ordinary fire-grate.

What we claim as our improvement, and desire to secure by Letters Patent, is—

1. The combination of the several air-chambers A B E, forming an open grate of increased radiating power for a chimney or stove, that will also furnish the heated-air draft of a register—viz., the chambers A, extending around the back to the sides of the grate, and into which air is admitted from below, the arched chamber B, projecting from the summit of the chamber A, with which it is connected over the fire, with more or less inclination, as the nature of the draft may require, and the chamber E, meeting the chambers A and B in the sides of the grate and extending over the arch of the smoke-flue, all combined in the manner and for the purposes substantially as described.

2. The apertures *c*, in their application to the herein-described grate, in combination with the movable perforated front or blower D, when constructed as described, and operating as specified.

A. C. BACON.
JNO. G. JENNINGS.

Witnesses:

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