

GOMMENGINGER & TROTTER

Hot Air Furnace.

2 Sheets—Sheet 1.

No. 95,461.

Patented Oct. 5, 1869.

Fig. 1

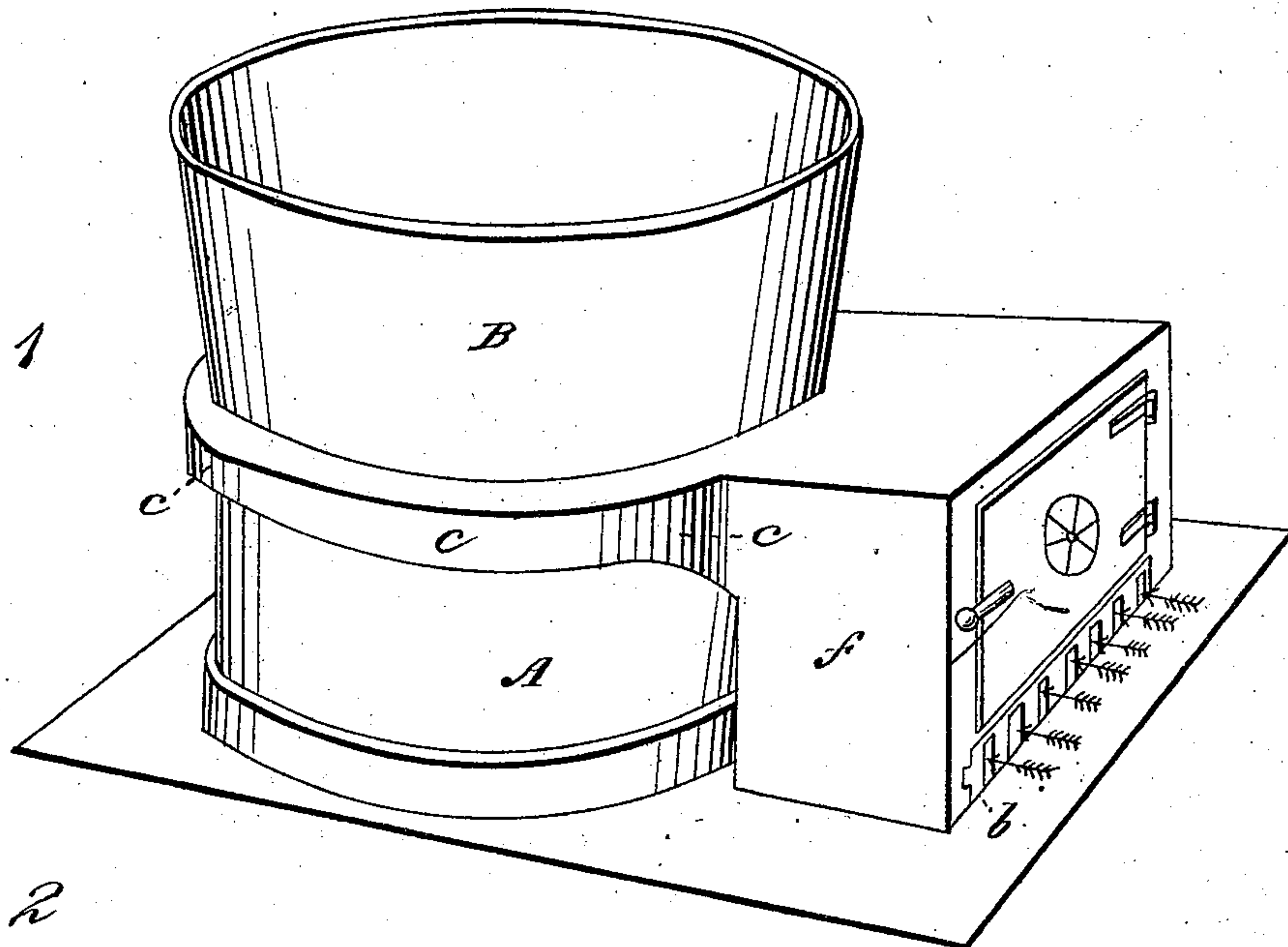
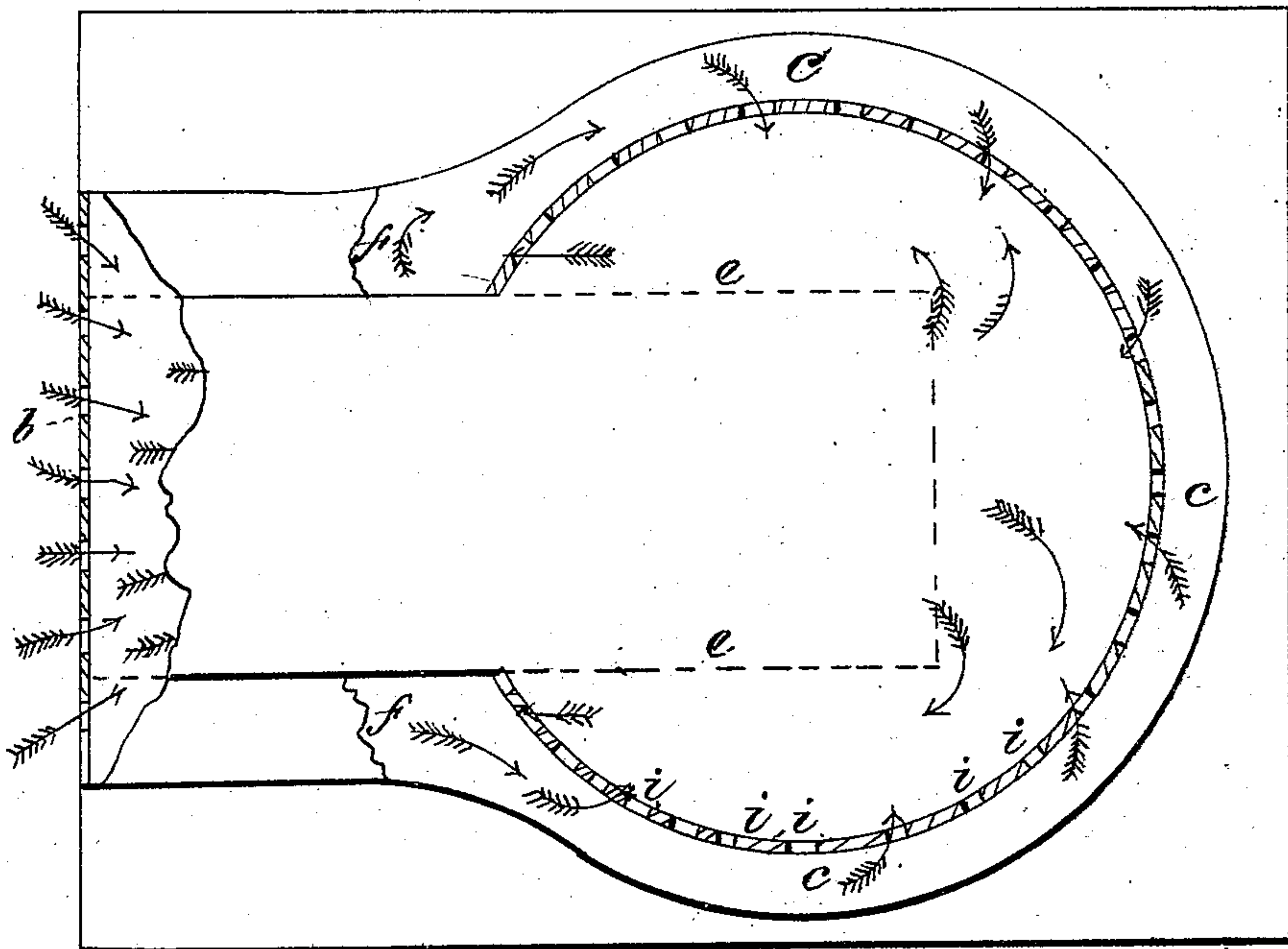


Fig. 2



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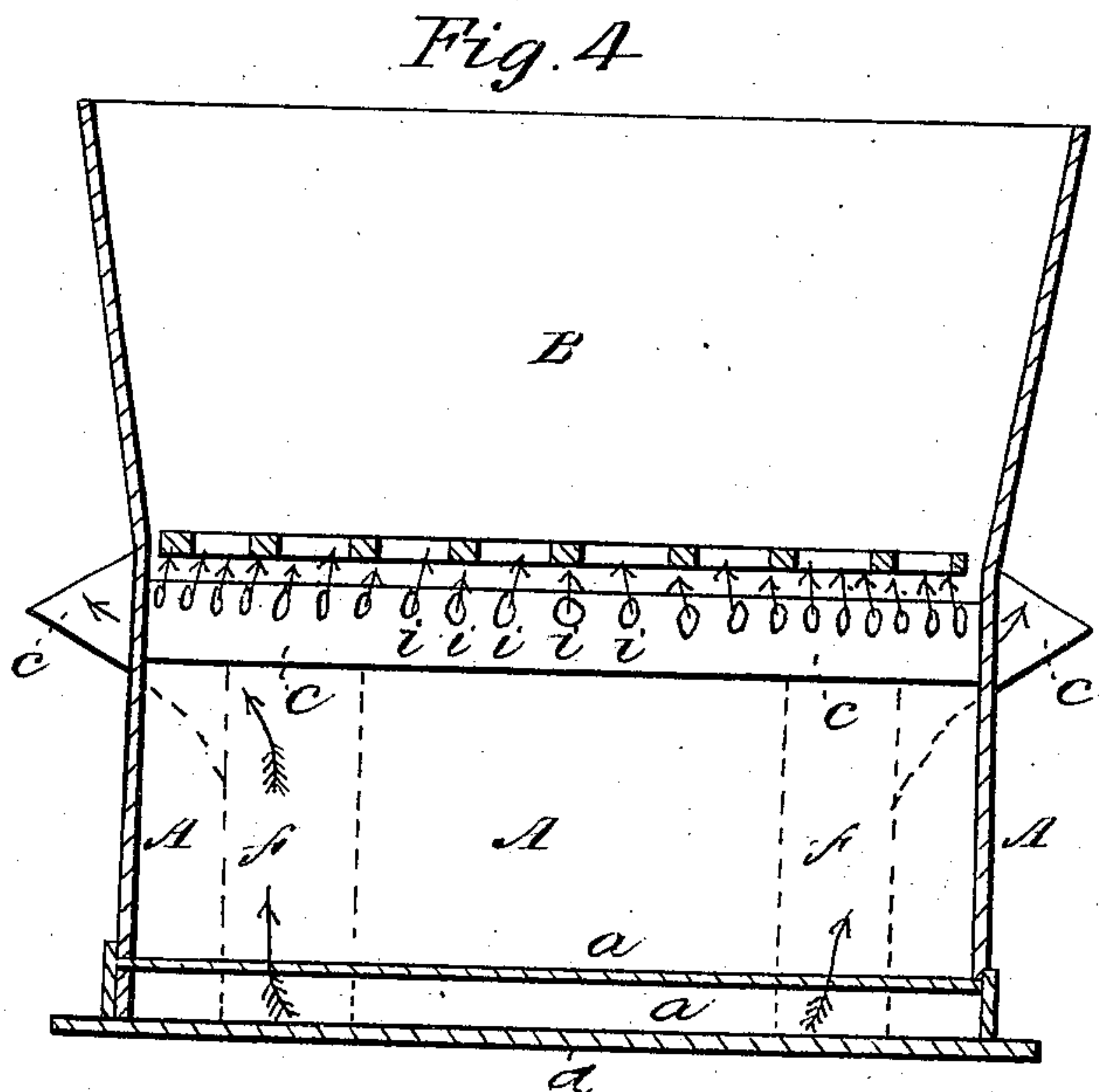
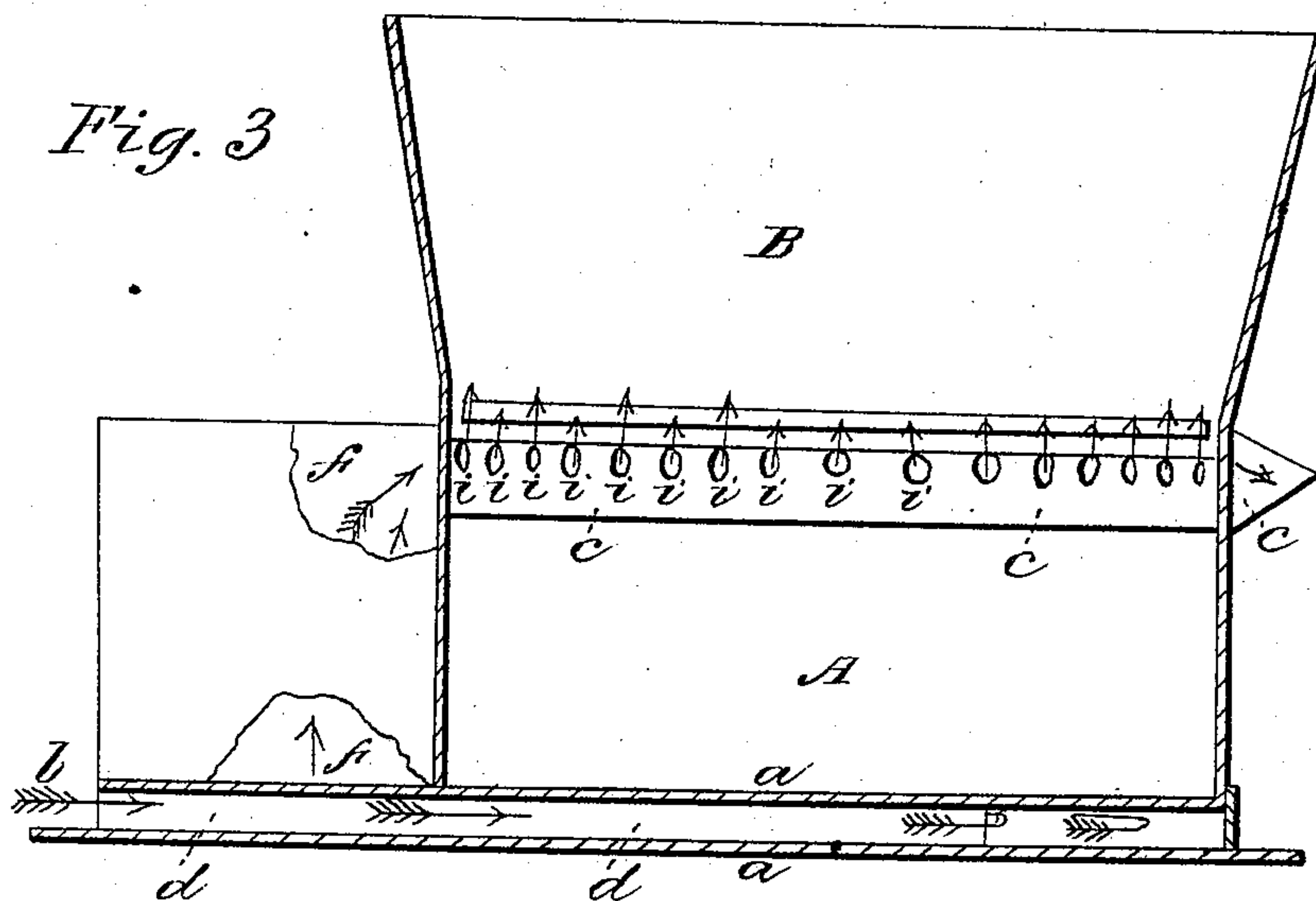
GOMMENGINGER & TROTTER

Hot Air Furnace.

2 Sheets—Sheet 2.

No. 95,461.

Patented Oct. 5, 1869.



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BARTHOLOMEW GOMMENGINGER AND CHARLES W. TROTTER, OF
ROCHESTER, NEW YORK.

Letters Patent No. 95,461, dated October 5, 1869.

IMPROVEMENT IN HOT-AIR FURNACES.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that we, BARTHOLOMEW GOMMENGINGER and CHARLES W. TROTTER, both of Rochester, county of Monroe, and State of New York, have invented a new and useful Mode in the Construction and Arrangement of "Hot-Air-Draught Flues" for Furnaces; and we do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings, and to the letters of reference marked thereon, in which—

Figure 1, Plate I, represents a perspective view of a furnace-base, showing fire-pot, ash-pit, and our hot-air-draught flue, *c c c*.

Figure 2, Plate I, represents a horizontal section in a plane, just below the grate, showing inside of hot-air-draught flue *c c c*, with perforations *i i i*.

Figure 3, Plate II, represents a longitudinal elevation of the fire-pot and ash-pit.

Figure 4, Plate II, represents a transverse section of fire-pot and ash-pit.

The nature of our invention consists in the arrangement of draught-flues for furnaces, by which the cold air is heated and equally distributed immediately under the grate, before the air communicates with the fire, and thereby producing perfect combustion with either wood or coal.

To enable others skilled in the art to make or use our invention, we will proceed to describe the construction and operation of the same.

We place in the base or ash-pit of furnaces a double bottom, marked *a a*, with an opening in front of furnace, and immediately under the ash-pit door.

The opening or space, marked *d*, is provided with a register, *b*, as fully shown in drawings, figs. 1, 3, and 4.

The space *d*, between the double bottoms *a a*, is for the purpose of admitting cold air to be used for draught, and the amount necessary is regulated by the register *b*, in front of the furnace.

Two parallel partitions, marked *e e*, in fig. 2, are

placed between the double bottom *a a*, running from the front of register toward the rear of base, but leaving an open space between the ends of the partitions *e e* and base *A*, as shown in drawing, figs. 2 and 3.

At the junction of the fire-pot *B* with the ash-pit or base *A*, and at the upper edge of base *A*, outside of the same, we place a perforated flue, *c c c*.

This flue *c c c* passes all around the upper edge of ash-pit or base *A*, communicating with the flue or space *d* by two perpendicular air-chambers, marked *f f*, on both sides of the entrance to ash-pit *A*, as shown in drawing, figs. 2, 3, and 4, Plates I and II.

The flue *c c c*, surrounding the upper edge of ash-pit *A*, has a number of equally-distributed perforations on the inside of ash-pit, and immediately under the grate.

The bottom of ash-pit being intensely heated by the hot ashes and heat from the grate, as also is the upper part of ash-pit by its contact with the fire on the grate, communicates the same intensity of heat to the air in its passage through the flues *d*, *f*, and *c*, to the grate, and thereby demonstrating the fact that the fuel can be made to produce a much greater and more uniform amount of heat than by admitting cold air direct to the fire.

The door of the ash-pit is made to fit tight when closed.

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

The double bottom *a a*, space or flue *d*, communicating with perforated flue *c c c* by two perpendicular air-chambers *f f*, in the manner and for the purpose herein specified and set forth.

BARTHOLOMEW GOMMENGINGER.
CHAS. W. TROTTER.

Witnesses:

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