

(No Model.)

R. MARSH.
VENTILATING HEATER.

No. 413,350.

Patented Oct. 22, 1889.

Fig. 1.

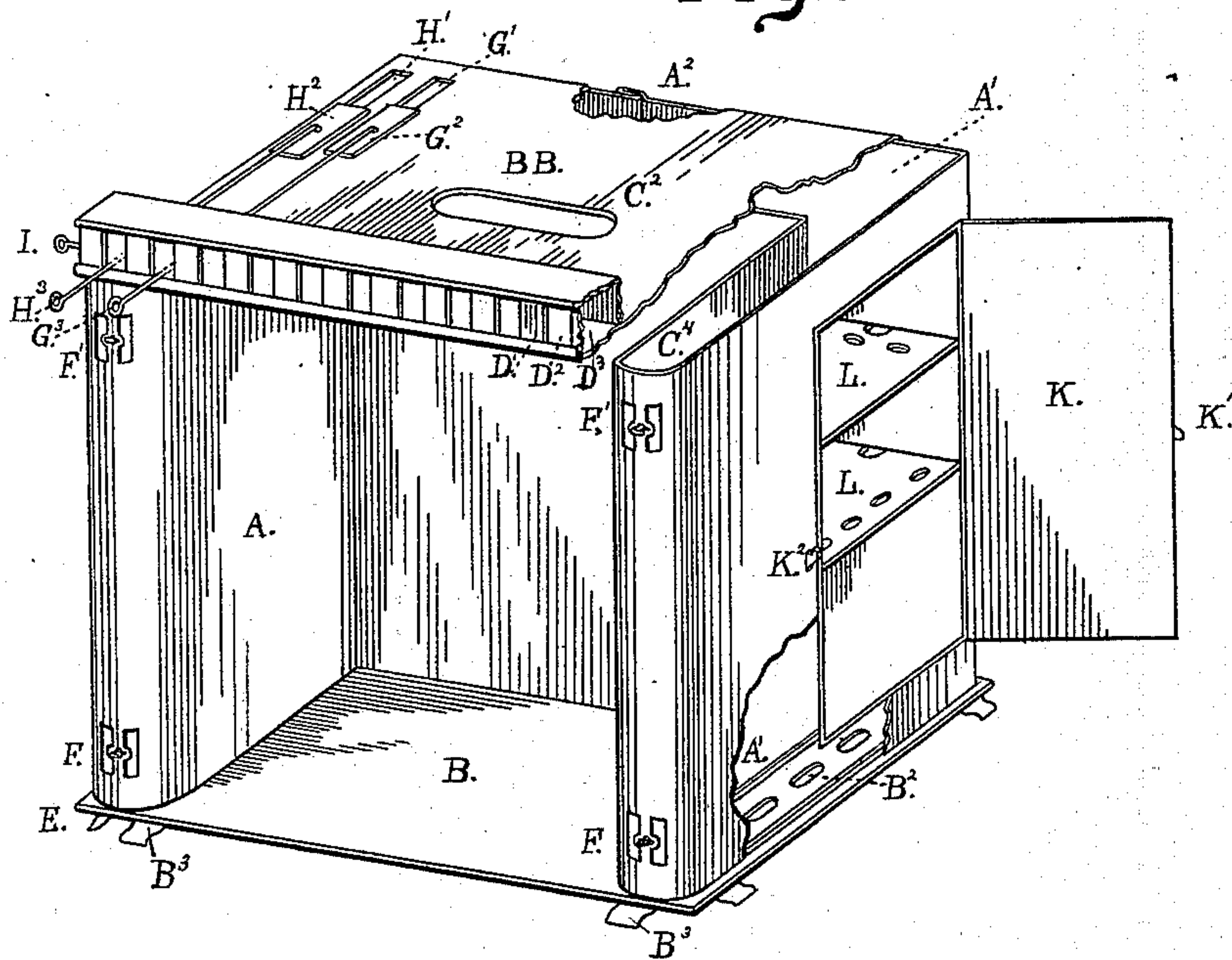


Fig. 4.

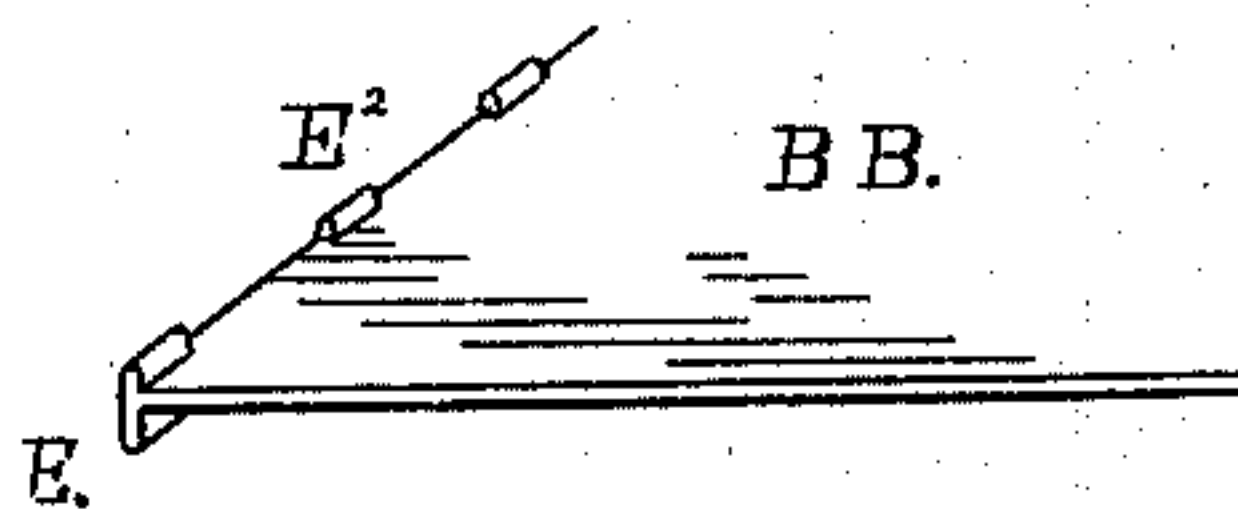
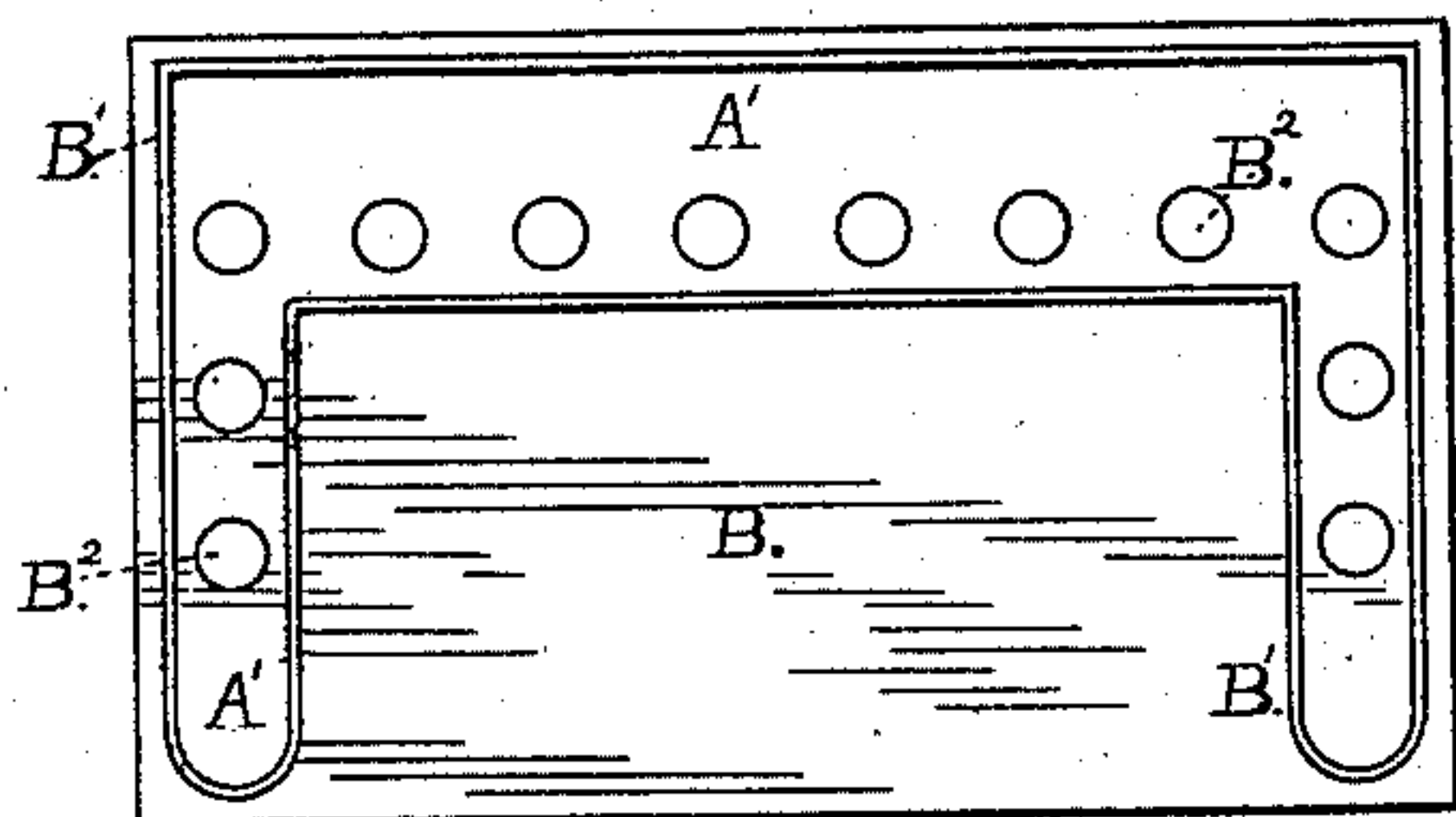
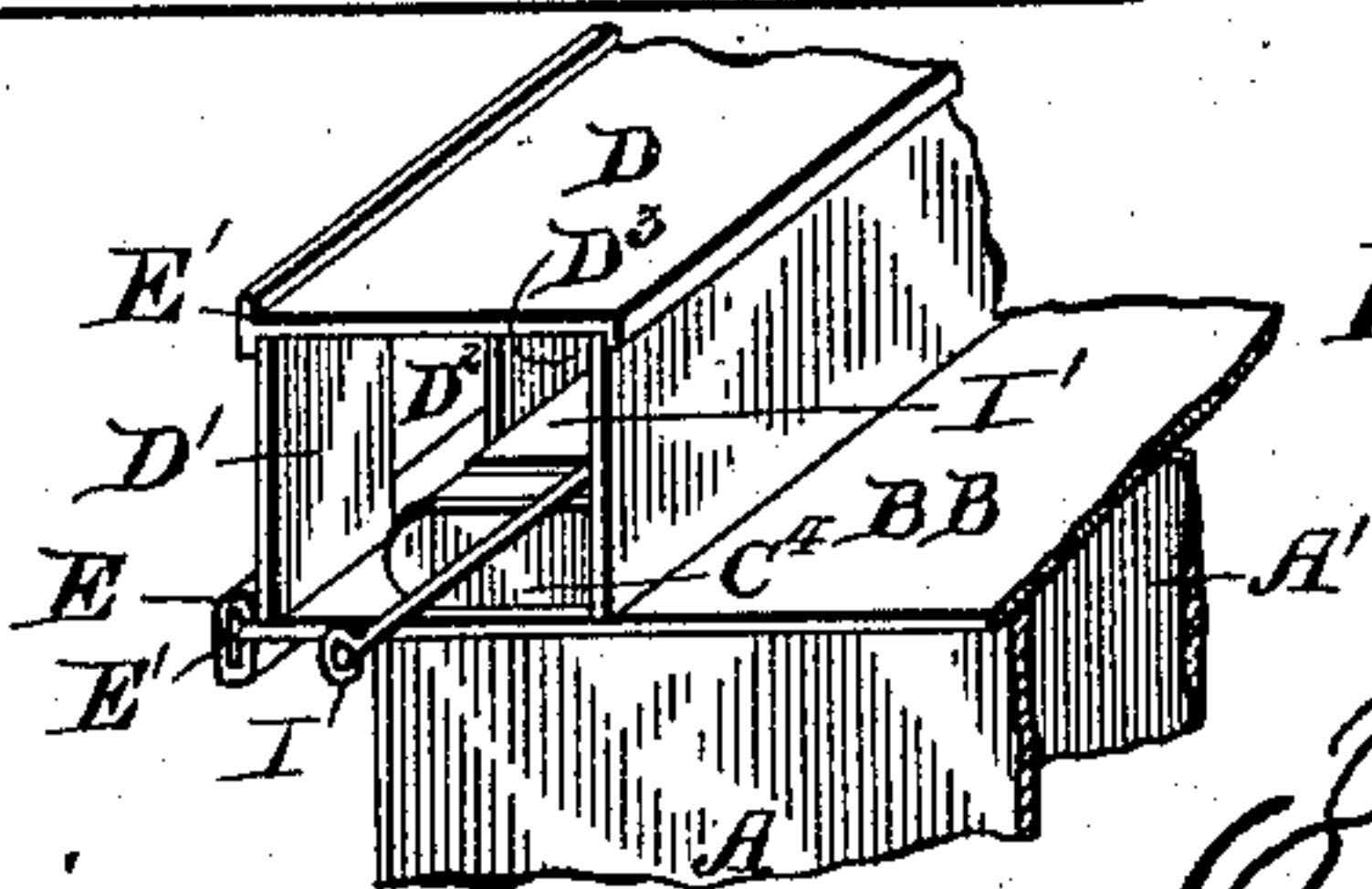


Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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VENTILATING-HEATER.

SPECIFICATION forming part of Letters Patent No. 413,350, dated October 22, 1889.

Application filed September 24, 1888. Serial No. 286,296. (No model.)

To all whom it may concern:

Be it known that I, RIVERIUS MARSH, a citizen of the United States, residing at New Brunswick, in the county of Middlesex, State of New Jersey, have invented a new and useful Improvement in Ventilating-Heaters, of which the following is a specification.

This invention relates to improvements in ventilating-heaters of the class in which the surrounding air-chamber forms the fire-place.

The object of the invention is to combine a fire-place heater and ventilator for various useful purposes in such a manner as to enable the same to be manufactured cheaply.

Referring to the drawings hereto attached, Figure 1 shows a perspective view of a fire-place ventilating-heater with a surrounding air-chamber. Fig. 2 is a perspective view showing the top plate, also the hot-air-discharge chamber and air-passages; Fig. 3, a perspective view of the top plate and corresponding metal sheath; and Fig. 4, a top view of the bottom plate with a surrounding elevation or rib to fit the form of the fire-place heater, also showing the air-holes.

As shown in Fig. 1, I use, preferably, a single sheet of metal A, formed so as to make a fire-place having a surrounding air-chamber A' on the sides and rear of the combustion-chamber, suitable for heating, ventilating, or cooking, and this metal has its edges joined at the back by seaming or otherwise, as shown at A². I place this structure A in a common chimney fire-place, the base or lower edge thereof resting on the hearth. The heating-chamber A' is covered with an iron cap B B or otherwise. The structure A has openings F F near the base in its front face and hot-air openings F' F' near the top. I use said structure A, also, in portable form, by connecting same with a bottom plate B, which is provided with a rib B', which extends around the same, so as to form a base for the structure A, and suitable air-openings B², while on the top I use a similar plate B B, the same as for the permanent heaters, which has an opening C² centrally for smoke; also suitable openings C⁴ communicating with the air-chamber D³. A portable ventilating-heater may be made independent of or directly within the chimney, as desired. Air from the heating-chamber A' passes through the dis-

charge-chamber D³, thence through the openings D², while a plate D covers said chamber D³, which I preferably make with a narrow strip of sheet metal bent so as to form the ends and back, while metal pieces or tile placed at regular or desired intervals form a front ventilator to said chamber, as shown by D'.

In Fig. 2 I show clearly the manner of constructing the front face of the discharge-chamber D³, in which the metal or tile pieces D' are held between the top D and iron cap B B. These pieces D' are suitably ornamented, and are held in place by a sliding metal sheath E over the enlarged edge E' of the plate D.

G' is a ventilator operated by a damper G² and rod G³, by which all odor from the air-chamber A' when used as an oven will pass into the chimney. The opening H', adapted to be covered or uncovered by the slide or damper H², operated by the rod H³, may have a pipe or flue connection for heating other rooms, if desired. The legs B³, under the base, elevate the latter sufficiently to admit air to the openings B²; or air may be received from without.

I is a handle connecting with a damper I', of which there is one at each end of the discharge-chamber D³, for the purpose of regulating the flow of air through the openings C⁴.

When desirable, I construct a door K in the side of the structure A, and provide it with a latch K' and catch K², and place shelves L L within, for the purpose of using the ventilating-heater as an oven.

I call particular attention to the construction of the body of the structure, whereby I am enabled to form it entire, except the top and bottom plates, of one piece of sheet metal; but it will be obvious at once that two or more pieces of metal can be united together so as to form practically but a single sheet, my invention being aimed to cover not only a single piece of metal, but one that is made substantially so by the art of manufacturing. The two front wings or folds form air-spaces, which are heated up, as well as the rear space or portion of the chamber, the space between the rear wall of the combustion-chamber and the rear wall of the structure being wider than the space between the forwardly-pro-

jecting folds of the metal. This increase in space I utilize by using it (when the heater is employed in a portable form) as an oven, or as an evaporating-stove, or for other like purposes. This construction, therefore, is an important one, as it enables me to readily construct it of sheet metal; and while I am aware that it is not new to form a structure of a single piece of metal and unite the edges of the same by seaming, I believe I am the first to employ a single piece of metal to form the vertical body or portion of a fire-place heater.

I am not aware of any prior invention wherein a single sheet of metal constituting the entire vertical body of the structure is combined with a base and cap to serve as a portable ventilating-heater and fire-place. Furthermore, I am not aware that it has heretofore ever been shown in the art to which this appertains how to construct a fire-place and surrounding air-chamber of a single sheet of metal in such a manner as to be able to use it for the various purposes of a heater or ventilator, or for cooking purposes.

What I claim as new is—

1. A heater for fire-places, having the entire vertical body thereof formed of a single piece of sheet metal, so as to provide air-spaces at the sides, and having in the front of said air-spaces and at the bottom and top of the same openings F and F', substantially as herein set forth.

2. A heater for fire-places, having its entire vertical body formed of a single piece of sheet

metal, bent up so as to provide air-spaces on the sides and rear of the combustion-chamber, substantially as herein set forth.

3. A heater for fire-places, having its entire vertical body formed of a single piece of sheet metal, so as to provide air-spaces at the side and rear, in combination with sheet-metal base and cap plates, substantially as herein set forth.

4. A heater for fire-places, having its entire vertical body formed of a single piece of sheet metal and provided with air-spaces on the sides and rear of the combustion-chamber, in combination with the metal base and top, substantially as herein set forth.

5. A heater having its body formed of a single piece of metal bent so as to provide air-spaces on the sides and rear and having at the base air-openings into said spaces, and provided with suitable base and top plates, substantially as set forth.

6. A heater having its body composed of a continuous piece of sheet metal, provided with air-spaces on the side and back, as set forth, and having air-openings into said spaces and air-escapes G' and H' from said spaces, in combination with a door K, whereby a ventilated oven is formed, substantially as described.

RIVERIUS MARSH.

Witnesses:

ROBERT MARSH,
AUGUST KATTNER.