F. GATES.

Oil-Stove.

No. 167,237. Patented Aug. 31, 1875.

Fig. 1

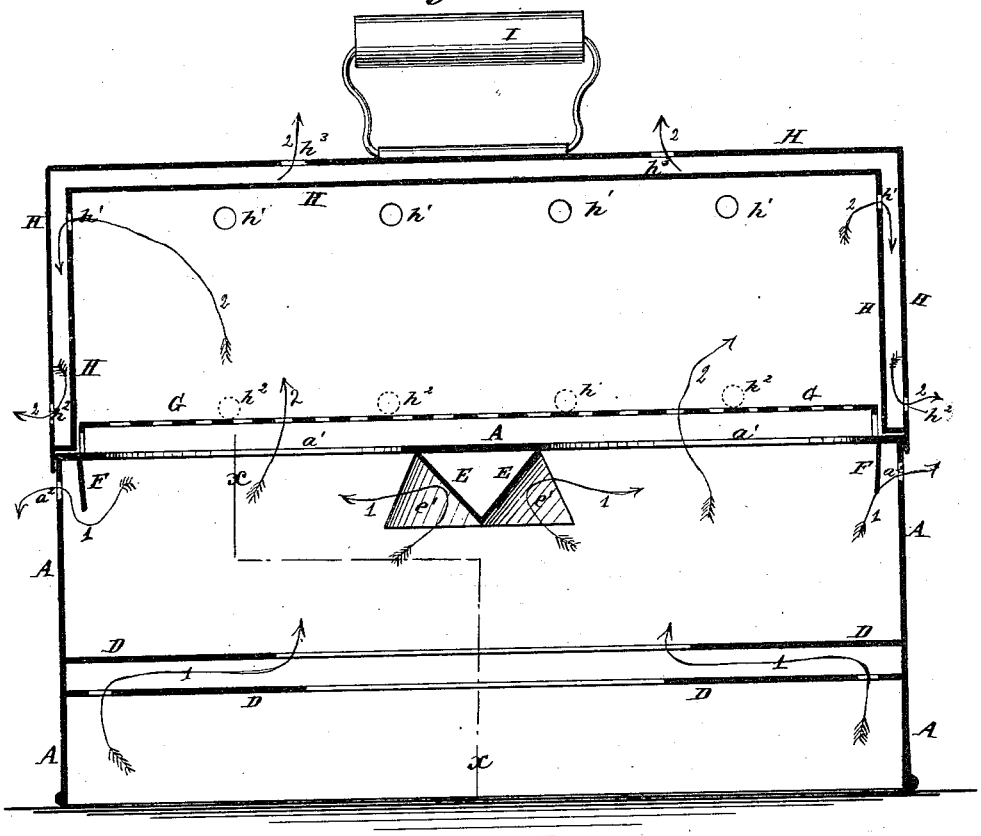
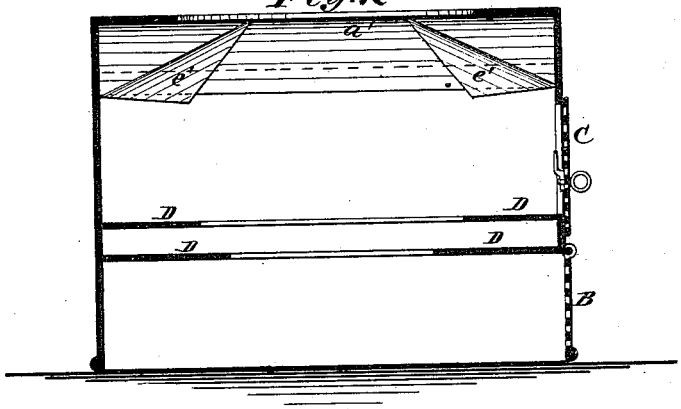


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDERICK GATES, OF FRANKFORT, NEW YORK.

IMPROVEMENT IN OIL-STOVES.

Specification forming part of Letters Patent No. **167,237**, dated August 31, 1875; application filed July 31, 1875.

CASE B.

To all whom it may concern:

Be it known that I, FREDERICK GATES, of Frankfort, in the county of Herkimer and State of New York, have invented a new and useful Improvement in Oil-Stove, of which the following is a specification:

Figure 1 is a vertical longitudinal section of a portion of an oil-stove illustrating my invention. Fig. 2 is a detail cross-section of the lower part of the same taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The objection of this invention is to furnish an improved oil-stove, which shall be so constructed as to be used for boiling, baking, and roasting articles of food, as may be desired, and which shall be effective in use and reliable in operation when used for either purpose.

The invention will first be described in connection with drawing, and then pointed out in the claims.

A is the case that incloses the lamp and its chimney. The case A is made rectangular in form, and of such a size as to inclose one, two, or more lamps, as may be desired. In the front side of the case A is formed an opening of such a length and height that the lamp or lamps may be readily put in and taken out through it, and which is closed by the door B. The door B is hinged at its upper edge, and is made of perforated sheet metal, so that air may pass through it in sufficient quantities to support combustion. In the upper part of the front of the case A is formed an opening of such a size that the chimney or chimneys may be readily put in and taken out through it, and which is closed by a door, C. The door C is hinged at its side edge, and is made of perforated sheet metal to allow air to pass through it. To the inner surface of the case A, and in the same plane with the space between the doors B C, is secured a hollow deflector, D, to deflect the air and cause it to pass down into the lamp, and then up into the cones of the lamp-burners. The inner edge of the hollow deflector D is open, and holes are formed through the outer part of its lower plate, so that a portion of the air may pass through the cavity of the deflector D, and be projected against the outer surface of the lamp-chimney. In the top plate of the case A are formed two or more boiler-holes, a^1, to receive the vessels in which boiling or frying is to be done. To the under side of the top plate of the case A, between the boiler-holes a^1, are attached one or more deflectors, E, which are made V-shaped to divide the current of heated air and deflect it toward the boiler-holes a^1. The inclined sides of the deflector E are provided at their ends with inclined flanges e' to assist in guiding the heated air more directly toward the said boiler-holes a^1. In the upper part of the ends of the case A are formed holes a^2 for the air to escape through, so as to keep up a circulation. F are plates attached to or formed upon the top plate of the case A, or the upper part of the ends of the said case A, which project down at a little distance from the ends of the case A, and the lower edges of which are a little below the said holes a^2, so that the heated air, after passing up to the boiler-holes a^1, must descend a little before it can escape through the holes a^2, so that there will always be a stratum of hot air in the upper part of the case A. When the stove is to be used for baking or roasting purposes a grate, G, is placed upon the top plate of the case A, and which is provided with flanges or short feet to raise it a little above the said top plate. In this case the grate G is surrounded by a box, H, the walls of which are made double to prevent the too rapid radiation of heat. In the upper part of the inner walls of the box H are formed holes h^1 through which the heated air passes into the space between the walls of the box H, through which the heated air passes down and escapes through the holes h^2 in the lower part of the outer walls of the said box H. In the outer wall of the top of the box H are formed a few holes, h^3, so that a portion of the heated air may escape in that direction. In this way a circulation will be kept up, and at the same time the escape of the heated air will be checked sufficiently to enable box H to be thoroughly heated. The lower edge of the box H is made with a rabbet or flange to keep it in place upon the top of the case A. The box H is provided with a handle, I, to enable it to be conveniently put on and taken off.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the doors B C, made of perforated sheet metal, with the lower and upper parts of the front of the case A, substantially as herein shown and described.

2. The combination of the plates or flanges F with the upper part of the case A through which the holes a^2 have been formed, substantially as herein shown and described.

3. The combination of the deflectors E e' with the top plate of the case A, and with the boiler-holes a^1, substantially as herein shown and described.

4. The combination of the grate G and the box H, made with double walls, and provided with the holes h^1 h^2 h^3, with the top of the case A of an oil-stove, substantially as herein shown and described.

FREDERICK GATES.

Witnesses:
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