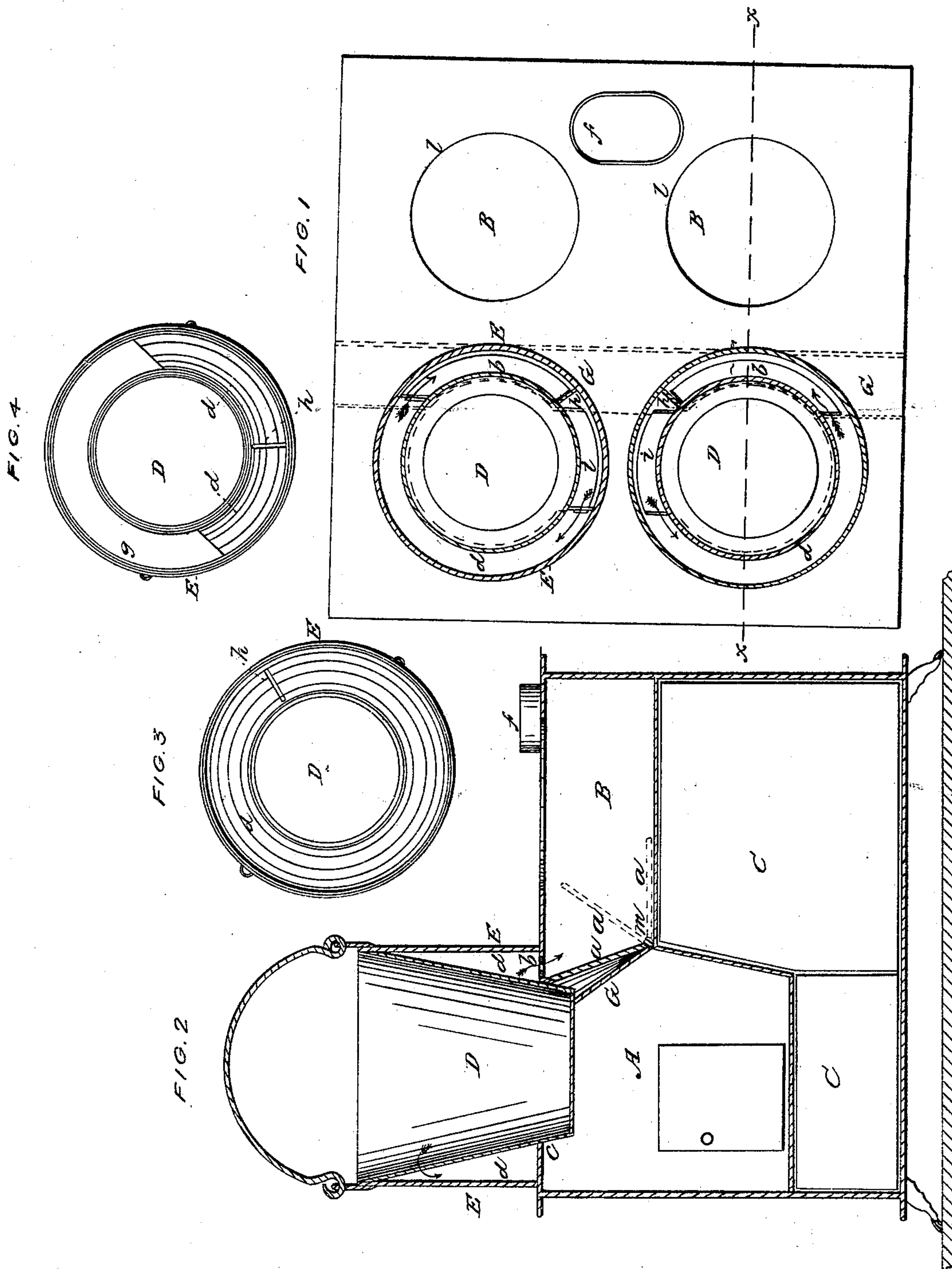


C. VAN DE MARK.

Cooking Stove.

No. 67,383.

Patented July 30, 1867.



WITNESSES:

J. S. Brown
E. J. Brown

INVENTOR:

Charles Van De Mark

United States Patent Office.

CHARLES VAN DE MARK, OF PHELPS, NEW YORK.

Letters Patent No. 67,383, dated July 30, 1867.

IMPROVEMENT IN COOKING-STOVES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES VAN DE MARK, of Phelps, in the county of Ontario, and State of New York, have invented a new and useful Improvement in Cooking-Stove and apparatus; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a top view of a cooking-stove provided with my improvement, together with a horizontal section of the improved boilers or heating-vessels connected therewith.

Figure 2 a vertical section of the same in a plane indicated by the line *xx*, fig. 1.

Figures 3 and 4, bottom views of two constructions of the boilers or heating-vessels.

Like letters designate corresponding parts in all of the figures.

My improvement belongs both to the construction of the stove itself and to a boiler or equivalent vessel for heating water or other liquid, or for cooking, as applied to the improved stove.

In the drawings, representing a stove provided with my improvement, the fire-chamber A, heating-chamber B, and oven C may be of ordinary construction. The only features of the stove itself belonging especially to my invention are, first, a transverse partition, G, separating the fire-chamber from the heating-chamber, and provided with a valve or valves, *a*, by which direct communication between said chambers may be opened or closed at pleasure; and, second, a curved opening, *b*, through the top plate of the stove, just behind each front-boiler opening *c* and the said division plate. These openings are as close to the boiler openings as they can conveniently be, and have the partition between them, and they are properly concentric with the boiler-openings. The partition G also curves with the boiler-openings between the same and the openings *b b*. The boiler or heating-vessel D is somewhat conical, or smaller at the bottom than at the top, and fits down into a boiler-opening, *c*, in the top of the stove, as usual. Around this there is a case, E, which may be cylindrical, so as to leave a space, *d*, inside thereof around the boiler, substantially as shown in fig. 2. It extends down far enough to rest on the top of the stove, when the boiler is inserted to the proper extent in the boiler-opening. The space *d* around the boiler, inside of the case E, serves as a flue space, in which the draught and products of combustion may circulate, in order more rapidly to heat the contents of the boiler. For this purpose there is a notch or opening, *i*, at the side of each front opening *c* of the stove, through which the draught may rise from the fire-chamber below, as shown by arrows in fig. 1. There is a radial or cross-division plate, *h*, between the case and body of each boiler D, and when the boiler is put on the stove, it is so placed that this division plate will rest between the notch or opening *i* of the stove and the curved opening *b* at the rear of the boiler-opening. By this arrangement, the draught, after it rises up through the opening *i*, is caused to pass all around the boiler through the space *d*, and then descend through the opening *b* into the chamber B of the stove. A modification of the construction of the boiler D is shown in fig. 4, which consists in covering the space *d* at the bottom by a plate, *g*, except that part which comes directly over the openings *i* and *b*. This renders the boiler more cleanly in use, by not dropping soot and not blacking the top of the stove around the boiler-openings. The whole arrangement of parts is shown in fig. 1.

When it is desired to concentrate the heat around one of the boilers, let the valve or valves *a* of the partition G be closed, so as to compel the passage of the draught up around the boiler, and then down through the opening *b*. Thus not only is the direct action of the heat upon the bottom of the boiler obtained, but the full effect of the draught around the sides is secured; or, if a gentle heat only is desired to act on the boiler, by opening a valve or valves, *a*, of the partition G, the draught passes directly back without passing up through the space around the boiler. And if more than one boiler D is used, and there is a valve, *a*, for each boiler, by opening said valves, more or less, in relation to each other, the relative amount of heat directed to each boiler may be regulated at pleasure. The shaft *m* of each valve *a* may be so arranged as to turn and hold the valve at any angle, so as to direct the heat, if desired, upward, against any boiler or cooking utensil in one of the rear boiler-openings *l l*, as indicated by one position in red lines, fig. 2. Instead of locating the opening *i* close to the opening *b*, and employing the division plate *h* between them, the opening *i* may be opposite to the opening *b* or in front of the boiler, so as to allow the draught to pass both ways therefrom around the boiler, from front to rear. For a long boiler, covering two boiler-openings, I make two round projections, fitting down into the openings, each end having the case E around it; and in the middle, between the downward projections, I make

a chamber in the bottom, raised above the stove plate, to furnish passages for the draught as it rises from the fire-chamber or chambers into the circulating spaces around the ends of the boiler; or a depression may be made in the top plate of the stove, between the front boiler-openings, to furnish the draught passages under the middle of the boiler.

What I claim as my invention, and desire to secure by Letters Patent, is—

The openings *b b* in the top plate of the stove, in combination with the cross-partition *G* and valve or valves *a*, for the purpose herein specified.

I also claim the notches or openings *i i* at the sides of the front boiler-openings, in combination with the openings *b b*, substantially as and for the purpose herein specified.

I also claim the combination of the boiler or heater *D* and the stove, each constructed substantially as described, and both operating together, substantially as and for the purpose herein specified.

I also claim the division plate *h*, either with or without the plate *g*, on the boiler, for the purpose specified.

CHARLES VAN DE MARK.

Witnesses:

E. J. BROWN,

J. S. BROWN.