

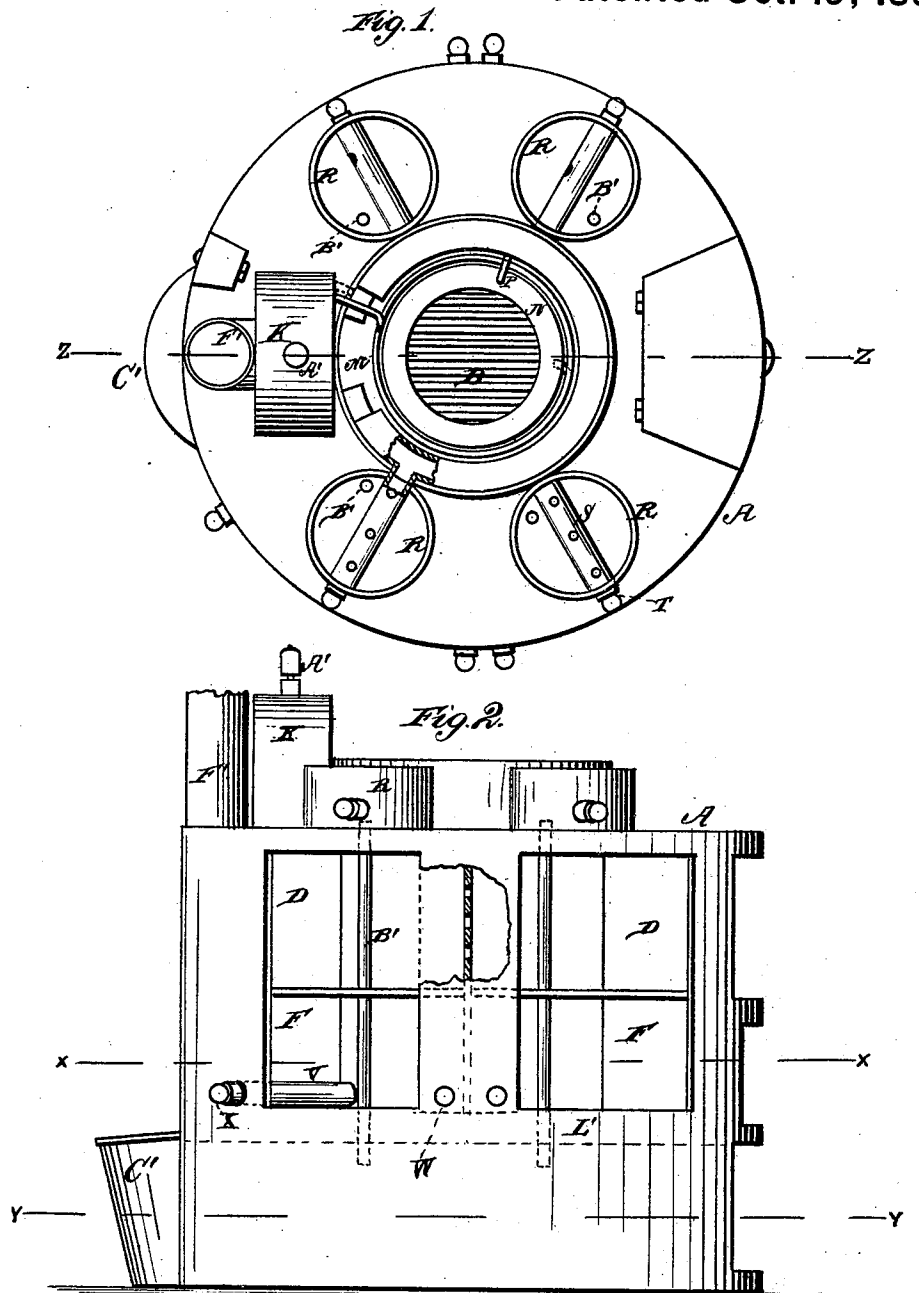
(No Model.)

3 Sheets—Sheet 1.

J. G. SMITH.
Stove.

No. 233,567.

Patented Oct. 19, 1880.



WITNESSES:
Robert Everett
James J. Sheehy

By

INVENTOR:
James G. Smith
Attorney:
J. Clement Smith

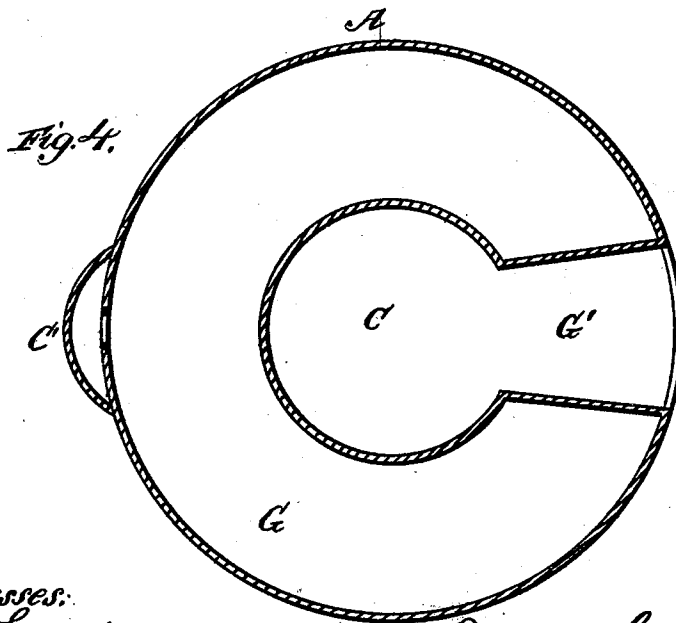
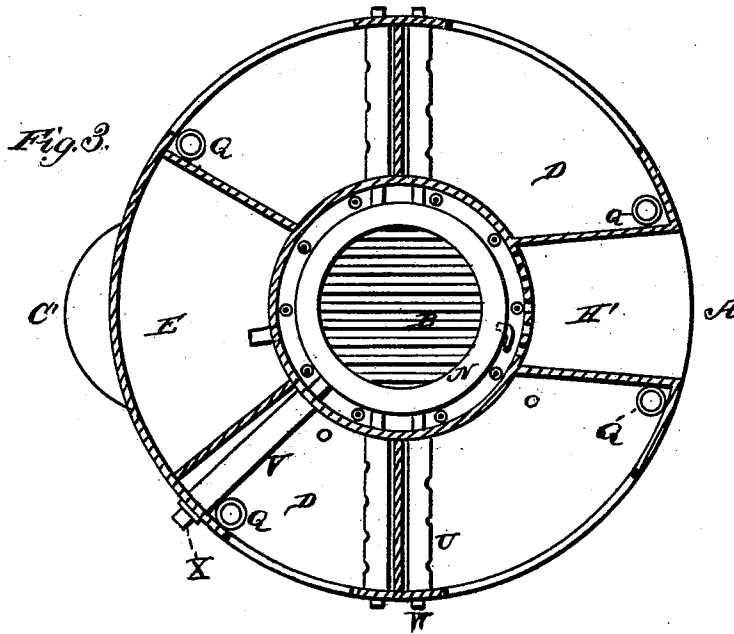
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3 Sheets—Sheet 2.

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Robert Everett

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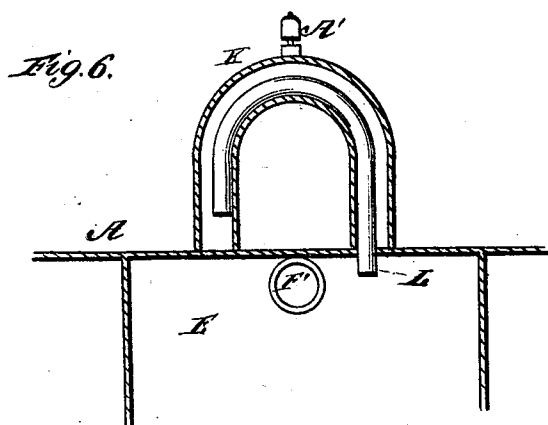
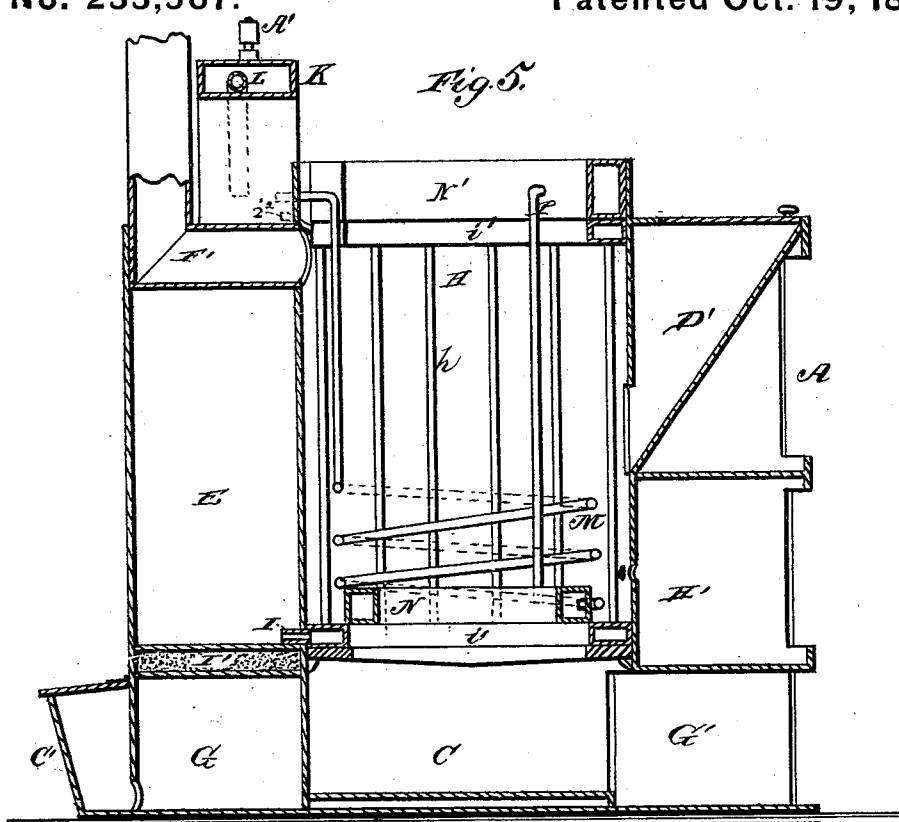
Inventor:

James G. Smith,
J. Clement Smith,
Attorney

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UNITED STATES PATENT OFFICE.

JAMES GREGORY SMITH, OF ALLIANCE, OHIO.

STOVE.

SPECIFICATION forming part of Letters Patent No. 233,567, dated October 19, 1880.

Application filed July 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. SMITH, a citizen of the United States, resident at Alliance, in the county of Stark and State of Ohio, have
5 invented certain new and useful Improvements in Cooking and Heating Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

15 This invention has for its objects to produce a stove whereby all the usual operations of cooking, as well as heating, may be effected conveniently by means of superheated steam, as more fully hereinafter specified. These objects
20 I attain by the apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved stove. Fig. 2 is a side elevation of the same. Fig. 3 is a section through line *x x* of Fig. 2.
25 Fig. 4 is a section through line *y y* of Fig. 2. Fig. 5 is a section through lines *z z* of Fig. 1. Fig. 6 is a sectional detail of the steam connecting-chamber.

The letter A indicates the stove, consisting
30 of the fire-chamber B, ash-pit C, and surrounding ovens D, receiving-reservoir E, steam-chamber F, and water-reservoir G.

The letter H indicates a steam-generating reservoir located inside of the fire-chamber,
35 consisting of the vertical tubes *h* and annular upper and lower tubes, *i i'*, with which the tubes *h* connect. The lower tube, *i'*, communicates with the receiving-chamber E by means of the tube I, and the upper tube, *i'*,
40 with the steam-chamber K, which connects with the receiving-reservoir E, and which is provided with a siphon, L, to return water of condensation to said receiving-reservoir from the chamber K. The upper tube, *i'*, is con-
45 nected with the chamber K by a smaller tube, *i''*.

The letter M indicates a superheating-coil located within the fire-box inside the steam-generating pipes, and leading from the steam-chamber K above into an annular steam-distributer, N, below, the said distributer connecting with a similar annular steam-distributer, N', above by means of a pipe, P. The

upper steam-distributer connects with a series of heating-chambers, R, by means of the pipes S, having valves T, for regulating and controlling the flow of steam, and the lower distributer with the steam-chambers R by means of the pipes U, and with the water-reservoir by means of the pipes V, which are provided with valves W and X, respectively, for regulating the flow of the steam.

The letter A' indicates an improved safety-valve and alarm-whistle located on top of and communicating with the steam-chamber K, by means of which an alarm will be sounded when
65 all the valves are closed and undue pressure accumulates in the steam-chambers.

The letter B' indicates a pipe leading from the bottom of the steam-chambers R to the water-reservoir G, for returning any water of condensation to the said reservoir.

C' indicates a chamber located on the outside at one side of the water-chamber, and communicating with it, by means of which said water-chamber may be charged with water.

The large water-reservoir G is intended to hold a large quantity of water for family use, and it will be seen by the arrangement of the distributors and pipes that the valves may be turned to discharge the entire amount of
80 steam generated into this chamber to heat the water therein when necessary.

The letter D' indicates the feed-chamber through which fuel is supplied to the furnace, and F' the escape-flue of the furnace.

G' indicates the passage leading to the ash-pit, and H' a draft-passage leading to the lower part of the fire-box.

The walls between the ovens and water-chamber are made double, as indicated at I', and filled with non-conducting material to prevent loss of heat and the condensation of steam in the steam-chambers F when the cold water is poured into the reservoir G while the stove is in operation.

The operation of my invention will be readily understood in connection with the above description, and is as follows: The receiving-chamber E, being charged with water, will supply the steam-generating chamber with water to the proper level. Upon starting a fire in the fire-box, when sufficiently heated, steam will be generated in the steam-generator and will pass into the steam-chamber E, and from

thence into the superheater, where it will be superheated and conducted to the upper and lower steam-distributers, to be distributed by the proper pipes to the steam-chambers R, which become such only when covered and the valves T are opened, the steam-chambers F, which communicate through the pipes Q with the water-reservoir G to permit the steam to circulate through them and be condensed in said chamber G. The ovens D do not receive steam, but are heated from the steam-chambers R and F.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the steam-generating apparatus H, the steam chamber or dome K, into which it leads, and a superheating-coil located within the fire-box and inside of the steam-generating apparatus H, substantially as specified.

2. In combination with the superheater M, the upper and lower distributor-pipes, N, and their distributing-pipes S U V, leading, respectively, to the steam-chambers R, the steam-chambers F, and the water-chamber G, and provided with regulating-valves T, W, and X, as and for the purposes specified.

3. In combination with the lower distributor, N, of the superheater, the steam-chambers F, beneath the ovens D, and the valved connecting-pipes U W, substantially as and for the purposes specified.

4. The combination, with the steam-chambers R, of the pipes B', leading to the water-chamber G, to return water of condensation thereto, substantially as specified.

5. In combination with the steam-dome K, the siphon L, leading into the receiving-chamber E, for returning thereto water of condensation, substantially as set forth.

6. The combination, in a stove, of the receiving-chamber E, the steam-generating apparatus H, steam-superheater M, the upper and lower distributors, N and N', distributing-pipes S, U, and V, provided, respectively, with valves T, W, and X, the ovens D, steam-chambers R and F, and water-chamber G, constructed and operating substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES GREGORY SMITH.

Witnesses:

DAVID FORDING,
KITTIE Z. SMITH.