

(No Model.)

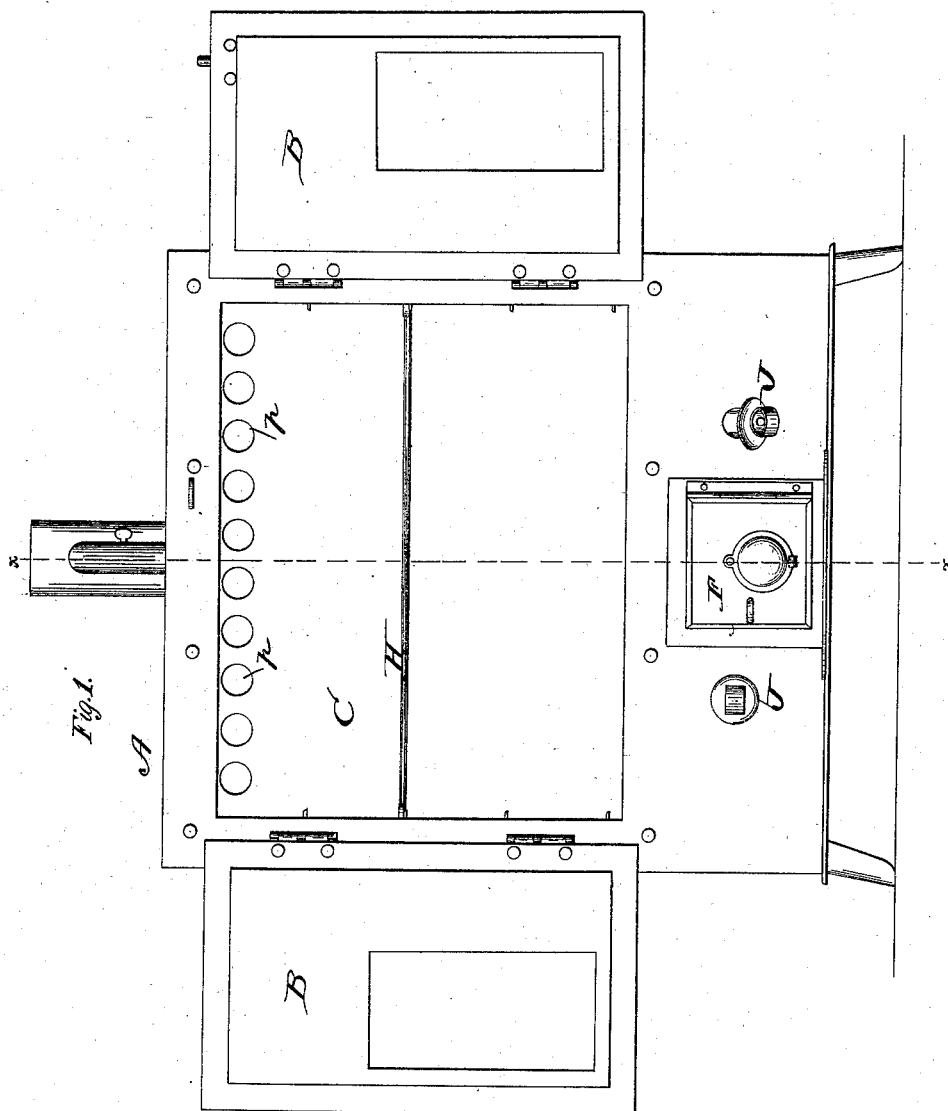
2 Sheets—Sheet 1.

G. S. BLODGETT.

OVEN FOR BAKING, COOKING, OR DRYING.

No. 263,013.

Patented Aug. 22, 1882.



Witnesses:

W. C. Jordinstou
Charles E. Buell

Inventor:

Gardner S. Blodgett,
By Melville Chund.
His atty.

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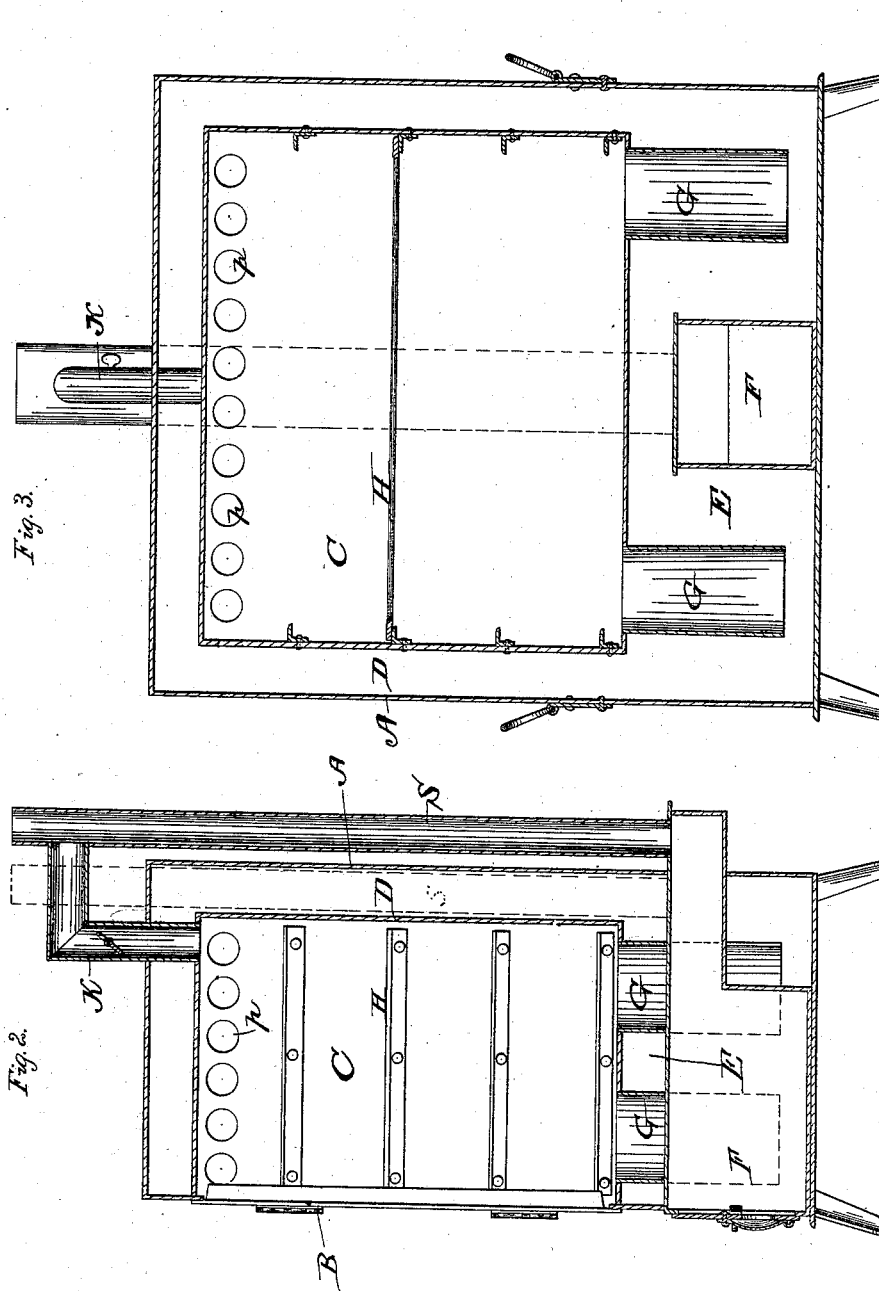
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By *Wm. W. Alcham*
His Atty.

UNITED STATES PATENT OFFICE.

GARDNER S. BLODGETT, OF BURLINGTON, VERMONT, ASSIGNOR OF ONE-HALF TO EDWARD P. MANOR, OF SAME PLACE.

OVEN FOR BAKING, COOKING, OR DRYING.

SPECIFICATION forming part of Letters Patent No. 263,013, dated August 22, 1882.

Application filed May 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, GARDNER S. BLODGETT, of Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Ovens for Baking, Cooking, or Drying; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a front elevation of an oven constructed in accordance with my invention, with the doors thrown open to reveal the interior. Fig. 2 is a transverse sectional view taken on the line *x x*, Fig. 1. Fig. 3 is a longitudinal sectional view taken on a line at right angles to line *x x*, Fig. 1.

Similar letters of reference in the several figures denote the same parts.

My invention has for its object to provide an oven through the baking or cooking chamber of which shall be maintained a perfect circulation of hot air, thereby preserving a uniform temperature throughout the entire chamber; and to this end it consists of an oven constructed substantially as I will now proceed to describe, and point out in the claims at the end of this specification.

In the drawings, A represents the outer casing of the oven, extending over the top, back, sides, bottom, and a portion of the front of the oven, and forming, in connection with the doors B B at the front, a tight-closing case.

C represents an inner chamber or case set within the outer case, A, so as to leave an air space or flue, D, between its top, back, and sides, and a larger air space or chamber, E, beneath it. The space E, I term the "hot-air" chamber of the oven, and within it I arrange a fire-box, F, or other heating contrivance, which is fed through a door at the front, and the smoke-pipe of which extends either up through the air-space D at the back and out at the top of the oven, as represented in dotted lines, Fig. 2, or through the outer casing and up the outside thereof to the top of the oven, as indicated by the full lines in said Fig. 2. The inner chamber, C, I term the "baking," "cooking," or "drying" chamber, according to the use to which the oven is to be put. At or near its upper ends its walls

are perforated, preferably at both sides and rear, as shown at *p*, so as to form communication with the air space or flue D, as shown in Figs. 2 and 3. Its bottom plate or wall is perforated, and is provided with downwardly-projecting tubes or diving-flues G, whose lower open ends terminate near the bottom of the hot-air chamber E. Suitable shelves, H, are arranged within the chamber C for the purpose of holding the material to be baked, cooked, or dried.

A fire being kindled in the fire-box and the doors of the oven being closed, the air in the hot-air chamber E becomes highly heated, and, rising up through the air space or flue D, is discharged through the perforations *p* into the upper part of the inner chamber, C, completely filling the latter and rendering its temperature substantially uniform throughout.

I employ the term "substantially uniform throughout," because it is apparent that the air upon entering the chamber C will be somewhat reduced in temperature and will seek an outlet through the diving-flues G and pass into the lower hot-air chamber, where, mingling with the upwardly-rising current of hot air therein, it is conducted back again into the chamber C, and so on continuously until the temperature of the oven is so nearly uniform throughout that the circulation of air practically ceases.

In order that fresh air may be admitted to the oven and that the gases and vapors arising from the materials being cooked, baked, or dried may be caused to pass out of the oven as they are evolved, I provide suitable air-inlets in the casing of the hot-air chamber E, closed by valves J, and from the upper part of the inner chamber, C, I extend a pipe, K, which may discharge into the smoke-pipe S, as shown, Fig. 2, a valve being provided in it for controlling the said discharge. By these provisions fresh external air may be admitted into the hot-air chamber of the oven, and the vapors and gases arising from the oven may be allowed to escape through the pipe K.

While I have described the air-space D between the inner and outer casings as constituting the flues through which the heated air is conducted from the hot-air chamber and

discharged into the baking-chamber, it is evident that in lieu of such construction independent pipes might be employed, opening at one end into the lower hot-air chamber and at the other end into the upper part of the baking-chamber, without departing from the principle of my invention in this regard.

The smoke-pipe S, as before stated, may pass up through the air-space D at the back of the oven, as indicated in dotted lines, Fig. 2; but if the heat radiated from it should cause the wall of the inner chamber, C, opposite it to be unduly heated, so as to subject the material placed at that part of the oven to a temperature greater than that of other articles placed at more remote points, then the smoke-pipe may be carried up on the outside, as shown in full lines, Fig. 2.

The oven may be constructed of galvanized iron or any other suitable material that will answer the purpose.

I am aware that prior to my invention ovens for heating and drying have been made in which a heater has been placed within the chamber, so as to heat the air and cause it to circulate more or less therein; also, that ovens have been constructed in which hot air has been conveyed from a remote heater and discharged first into the upper part of a drying-chamber and then from the bottom of said chamber either into the open air or into the heater again; also, that air heated by compression in an air-compressor located in a drying-

chamber has been discharged into the upper part of said chamber, and then taken from the bottom of said chamber through flues or passages and conveyed back to the heater, as shown in Letters Patent to E. Hill, July 12, 1881. None of such arrangements of these I claim as my invention; but

What I do claim is—

1. The combination of the outer casing, A, and the inner case, C, forming the baking-chamber, and having the perforations near its top for the admission of hot air, with the air space or flue between the inner and outer cases, the lower hot-air chamber and the fire-box for heating it, and the descending or diving flues having their lower open ends near the bottom of the hot-air chamber, substantially as described.

2. The combination of the inner and outer chambers, the hot-air chamber, the flues for conveying the hot air from the hot-air chamber to the upper part of the inner or baking chamber, the descending or diving flues for conducting the air back to the heating-chamber, the inlets for the fresh air, closed by valves, and the pipe for discharging the vapors and gases into the smoke-pipe, substantially as described.

GARDNER S. BLODGETT.

Witnesses:

FRED F. CHURCH,
CHAS. E. BUELL.