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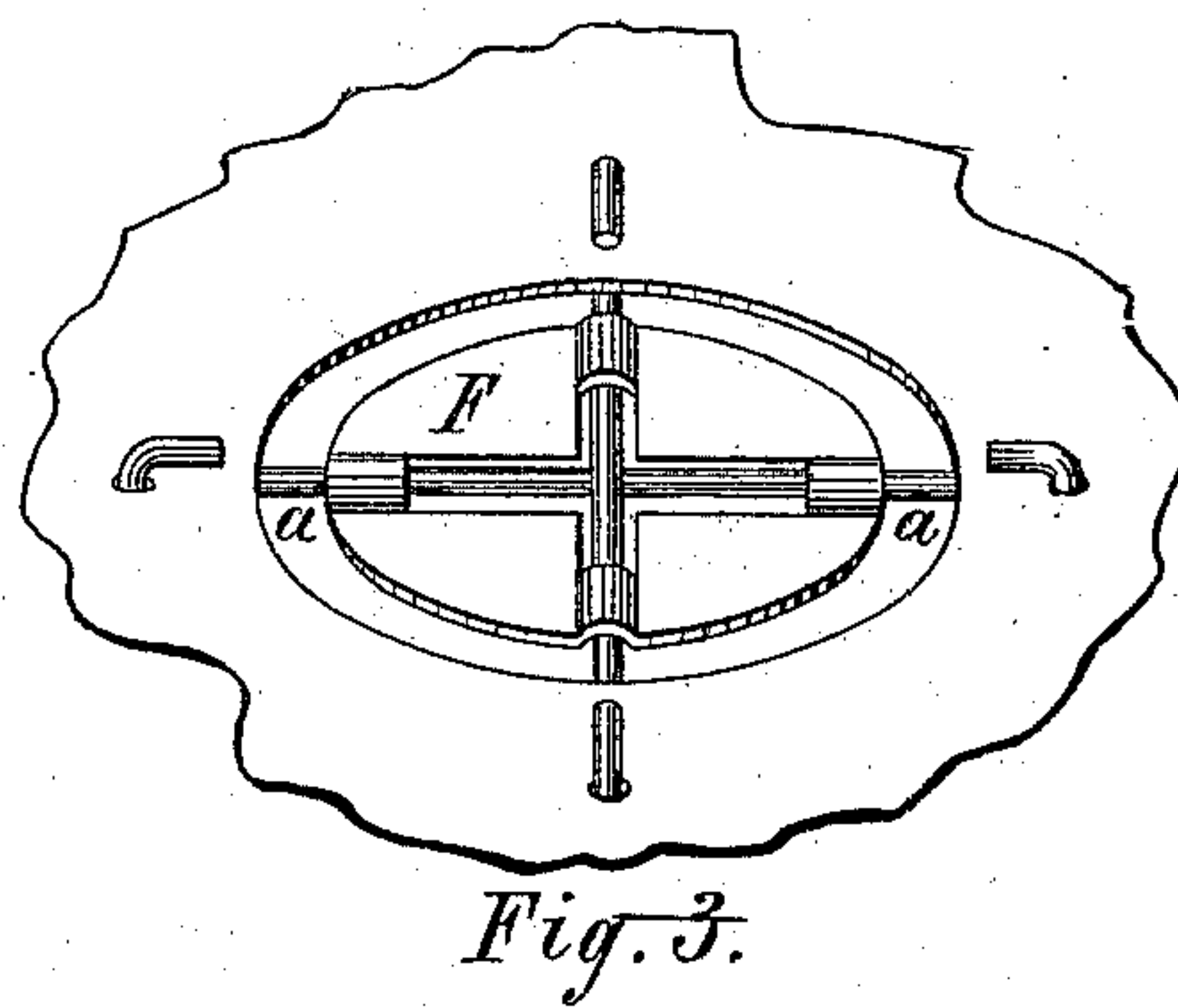
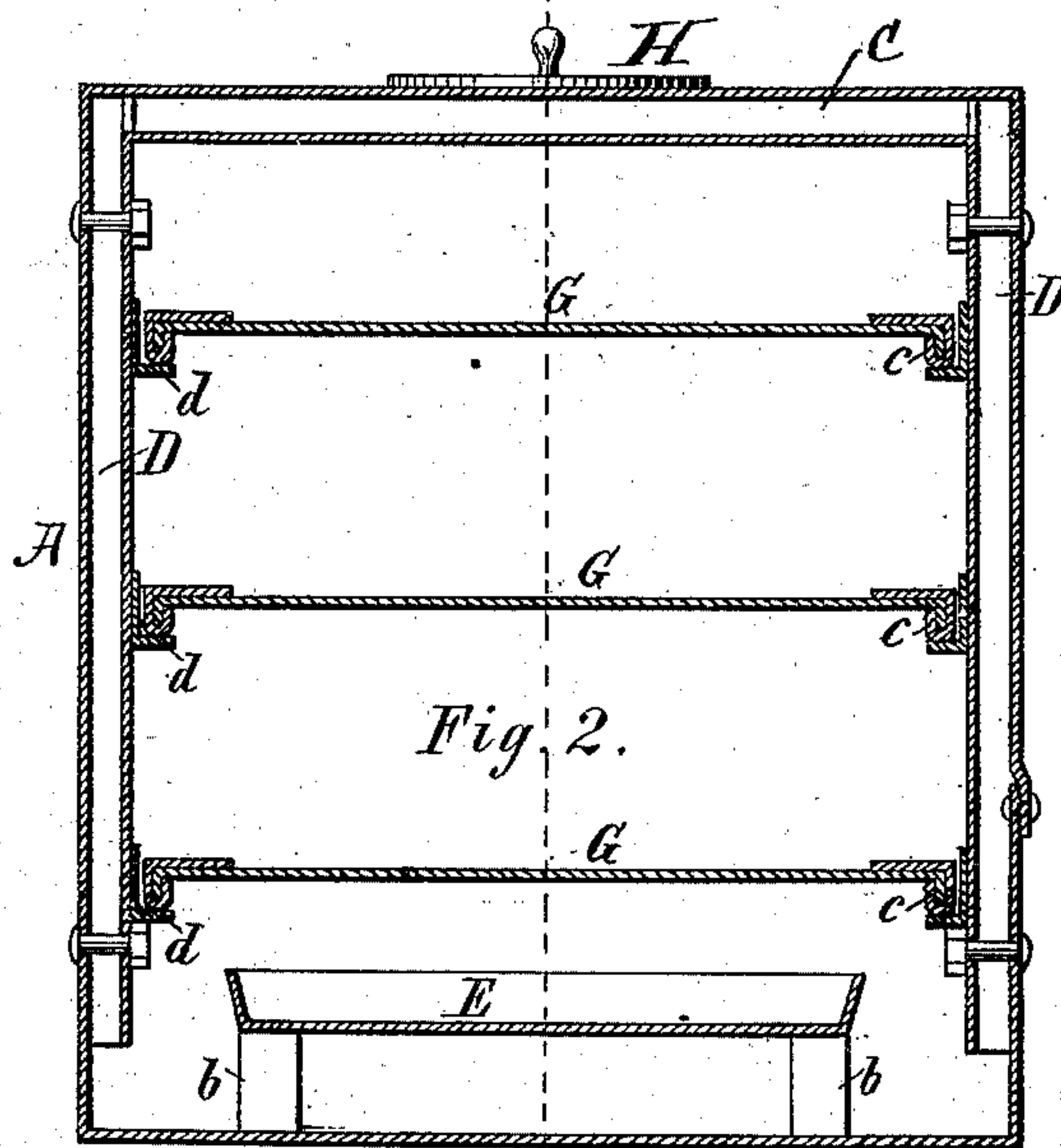
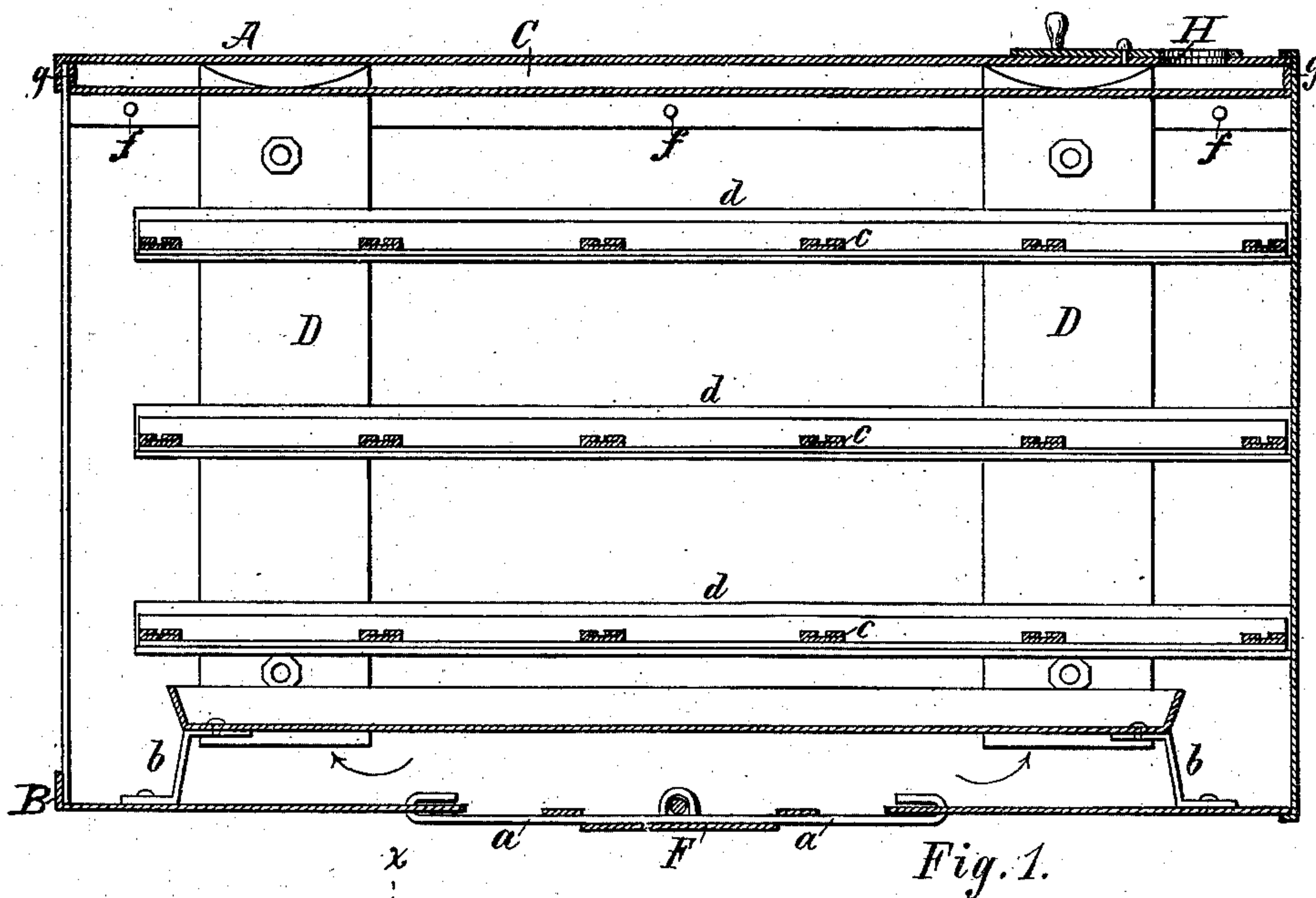
2 Sheets—Sheet 1.

J. L. MORGAN.

PORTABLE OVEN FOR GAS AND VAPOR STOVES.

No. 258,101.

Patented May 16, 1882.



Witnesses.
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John B. Coker

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(Model.)

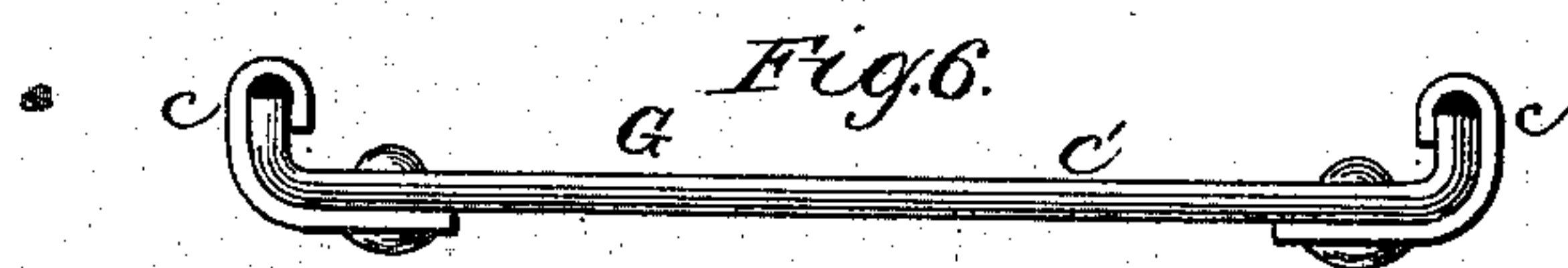
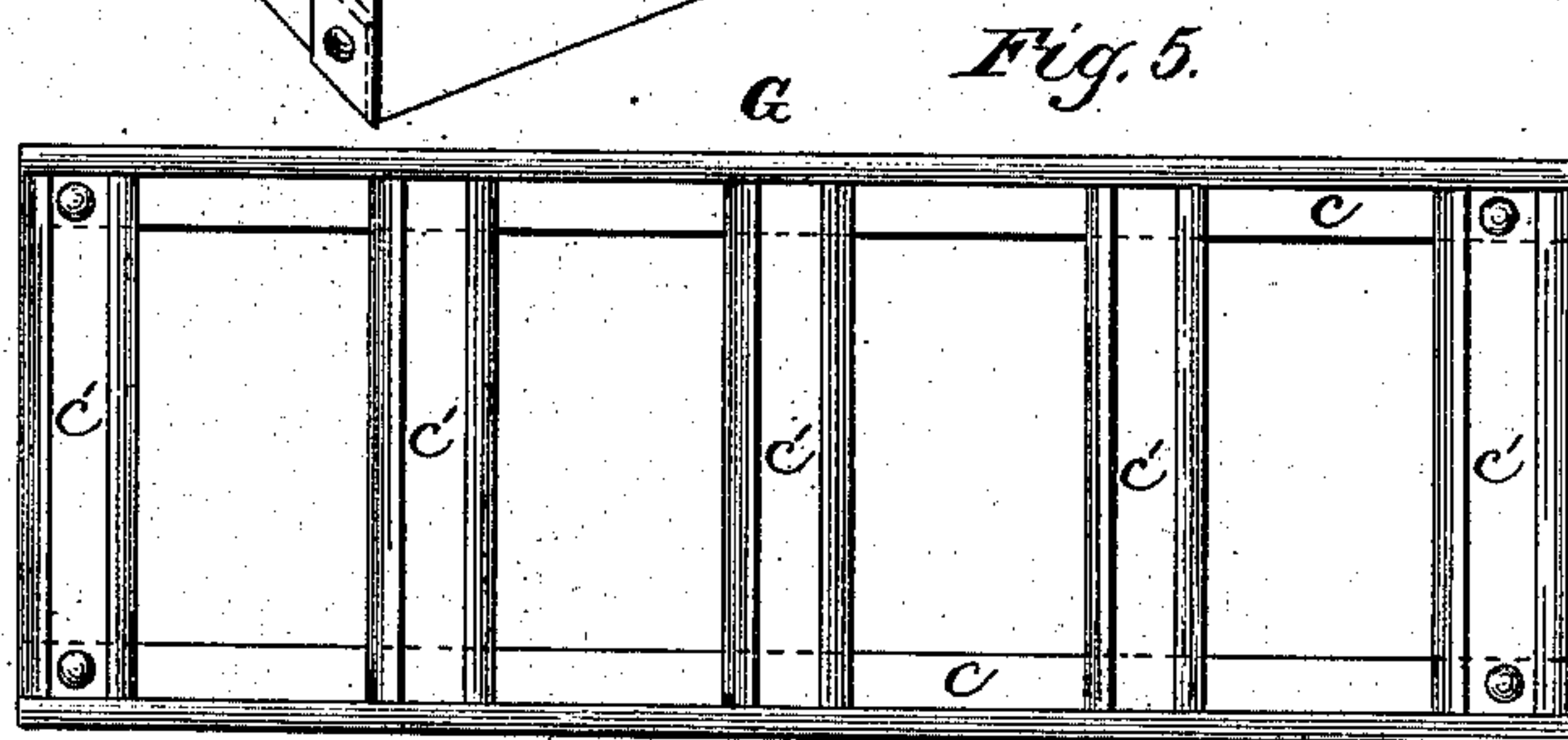
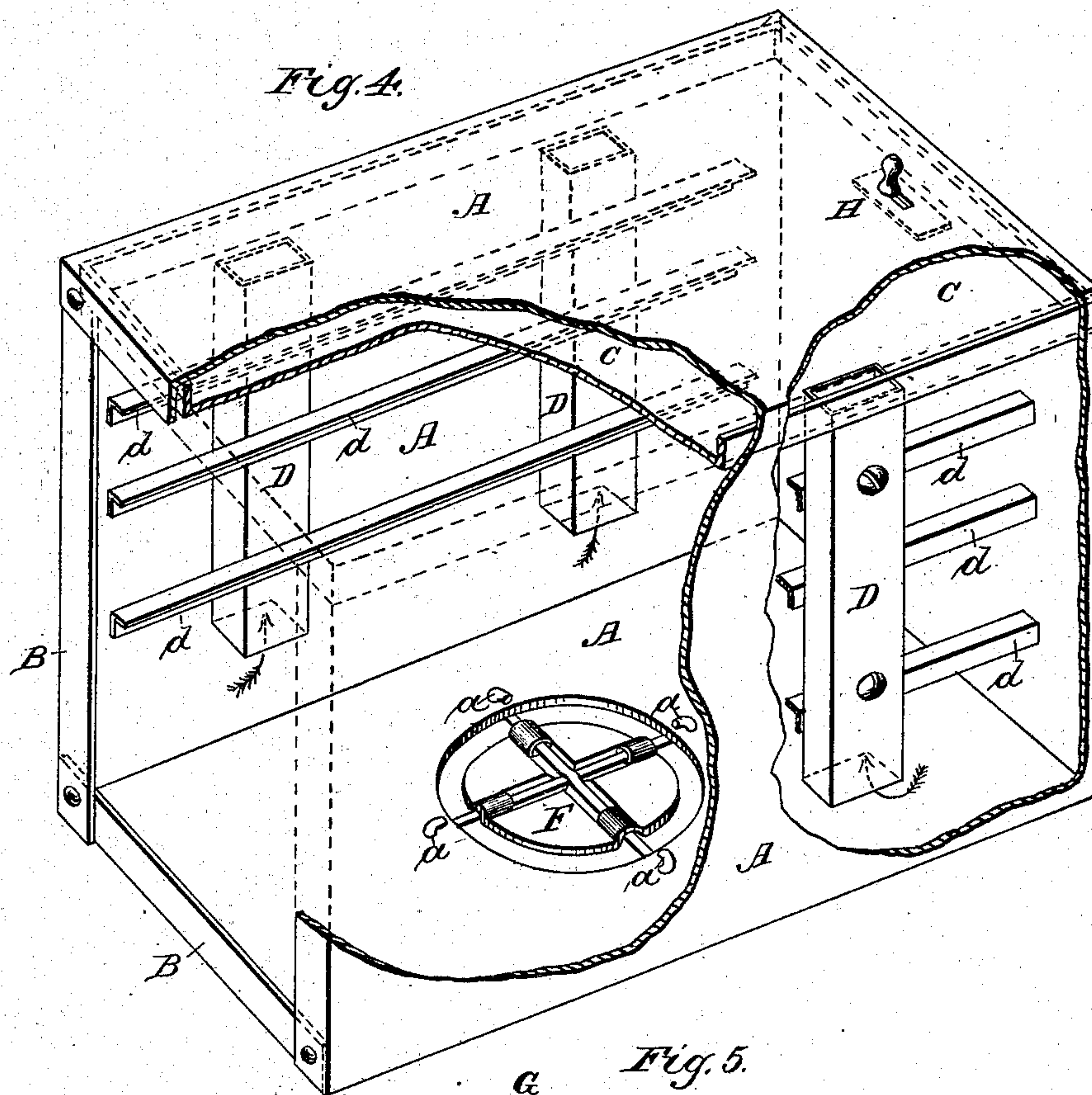
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No. 258,101.

Patented May 16, 1882.



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UNITED STATES PATENT OFFICE.

JONATHAN L. MORGAN, OF DECATUR, ILLINOIS.

PORTABLE OVEN FOR GAS AND VAPOR STOVES.

SPECIFICATION forming part of Letters Patent No. 258,101, dated May 16, 1882.

Application filed July 30, 1881. (Model.)

To all whom it may concern:

Be it known that I, JONATHAN L. MORGAN, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented a new and useful Improvement in Portable Ovens for Gas and Vapor Stoves, of which the following is a specification.

My invention relates to certain new and useful improvements in portable ovens for gas and vapor stoves; and it consists, first, in the construction of the grate; second, in the construction of the door-front; third, in the corrugated radiating-disk suspended over the flame by wires attached to the bottom of said oven; and, fourth, in the use of an air-chamber at the top, inside, having conducting-tubes secured to the side walls to convey the air and smoke thereto, as hereinafter more fully described. I attain these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section on the line *x x*, Fig. 2, and shows the entire interior construction. Fig. 2 is a transverse vertical section, showing the grates in proper position. Fig. 3 is a view of a portion of the bottom of the oven, showing the circular corrugated radiating-disk suspended on wires stretched across the opening in the bottom of oven. Fig. 4 represents the oven in perspective, the drip-pan being removed and the body broken out in places to show the flame-spreader or corrugated disk, the conducting-tubes, and the brackets attached to them which support the grates or shelves. Fig. 5 is a plan of the grate or shelf, bottom side up. Fig. 6 is an end view of grate, also bottom side up.

Similar letters refer to similar parts throughout the several views.

A represents the body of the oven, and is made of one continuous sheet of tin or other metal, with but the one seam. The edges are bent at right angles, and the corners riveted together, as shown at B, thus dispensing with the strips commonly used to form the inside rim at that end to which the door is attached, the opposite end being covered in the usual manner as heretofore.

C is the air-chamber at the top of the oven, and is provided with the conducting-tubes D

D, having their openings at their lower ends, as indicated by arrows, and an outlet into the air-chamber, as shown in Fig. 1, through the half-circle openings at the top, or out at the top, as it is obvious that these conducting-tubes may be made either way—that is, either with the half-circle at the top, when the tube is set so that the upper end rests against the upper part of the oven, or, when made square on top and set, as in Fig. 4, a short distance from the top, so that the hot air can pass out at the top into the chamber, and thence out through the orifice in the top of the oven, which is covered by the damper H. Onto these tubes are riveted the brackets which support the grates. The conducting-tubes D, being the same width as the inside flanges, allow the grates to be removed from the oven parallel. The advantage of this is apparent, as the articles need not be removed from the grate until after withdrawing it from the oven.

E is a drip-pan and sub-radiator, and is supported on legs or angle-irons *b b b b* at its corners.

F is the corrugated radiating-disk, and is suspended on wires *a a a a*, which pass across the hole in the bottom of the oven, said wires being hooked into and bent down tight onto the metal bottom of the oven, and acting as braces to strengthen the bottom as well as to hold the radiator in position. By reference to Fig. 3 it will be seen that the wires pass under and over the disk through the corrugations formed for the purpose, and that side having the longest convex form is presented to the flame, thereby protecting the wires to a great extent. It is obvious the corrugations, as well as the wires, serve to prevent the radiator from working by the action of the flame.

I do not wish to confine myself to the circular form of disk, nor the number of wires shown, as it is obvious that a different form may be applied to the disk, and any number of wires may be used to suspend it in position.

G is the grate, made of sheet-iron and constructed as follows: One edge of the side bars, *c c*, is folded over, and the ends of the cross-bars *c' c' c'* are placed under or in between these folds and hammered down. It is then placed in a tinner's folding-machine and bent at right angles, as represented in Fig. 6. The

cross-bars at each end of the grate are placed even with the end of the side bars, and a rivet is inserted through them to prevent lateral displacement of the two only, while the others
5 are firmly held in place by the formation of the grate, as before described. The grate thus formed rests on the brackets, as shown, with the edges downward.

The upper left-hand corner of Fig. 2 is
10 broken out to show the extent of the partition which forms the air-chamber C, and also a section of the conducting-tube D. The partition is attached to the oven at the sides with rivets, which pass through the flanges, as shown at *f*
15 *ff*, Fig. 1, the ends being turned up at right angles to fit the inside of the oven at *g g*, Fig. 1.

The top of the oven is provided with a sliding damper or valve, H, to regulate the heat and allow the smoke and vapor arising from
20 the articles being baked to escape.

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

1. In a portable oven for vapor and gas
25 stoves, the radiator or disk, corrugated to prevent warping as well as to allow the wires to pass through it flatwise, and the wires for the purpose of suspending the disk in its position above the flame, substantially as shown and
30 described.

2. In a portable oven, the conducting-tubes D, secured to the side walls of the oven at equal distances from the ends thereof, the side walls of the oven forming one side of the

tubes and the tubes being of the same depth 35 as the flanges B of the oven.

3. In a portable oven provided with flanges B, the combination, with the conducting-tubes secured to the sides of the oven and being of the same width as the flanges of the oven, of
40 the brackets *d d*, secured to the sides of the tubes D, substantially as set forth.

4. A portable oven having a door-front or opening formed of the extended turned-down portions of the sides, top, and bottom of said
45 oven, substantially as described, the overlapping corners of said turned-down portions being secured together by rivets.

5. In a portable oven for vapor and gas stoves, the combination of the following ele-
50 ments, viz: the corrugated radiating-disk F and bottom part of the oven and the sub-radiator or drip-pan E, the conducting-tubes D, and air-chamber C, having the valve or damper H, the brackets *d d*, and grate G, all arranged
55 substantially as herein shown and described.

6. A sheet-metal shelf or grate having two side bars and a number of cross-bars, the side bars being bent longitudinally and embracing and overlapping the cross-bars, which are
60 bent transversely at their extremities, and the cross-bars at each end being secured to the side bars by rivets, substantially as described.

JONATHAN L. MORGAN.

Witnesses:

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