

I. N. DEARDORFF.
Stoves for Smoke-Houses.

No. 145,054.

Patented Dec. 2, 1873.

Fig. 1.

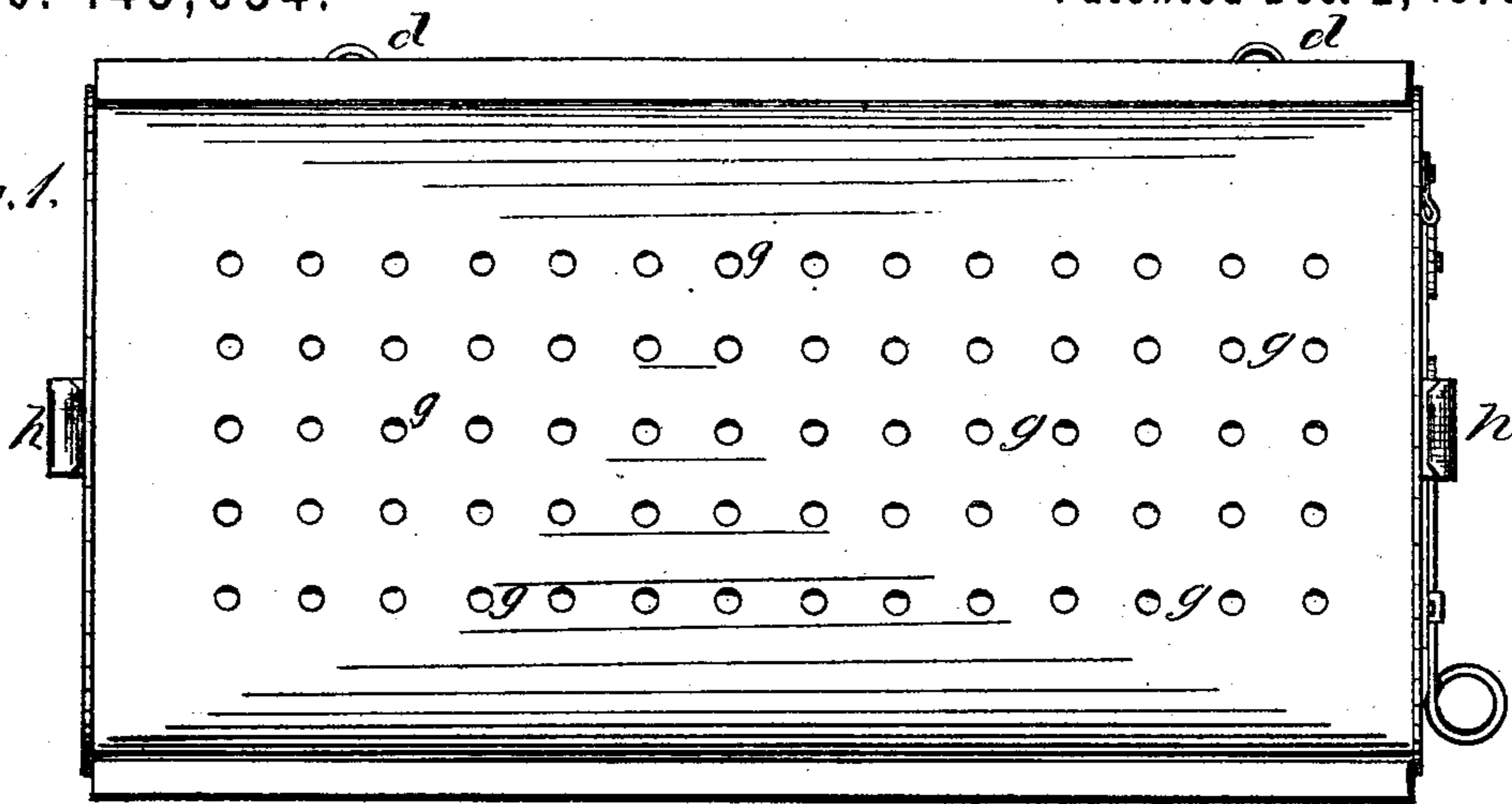
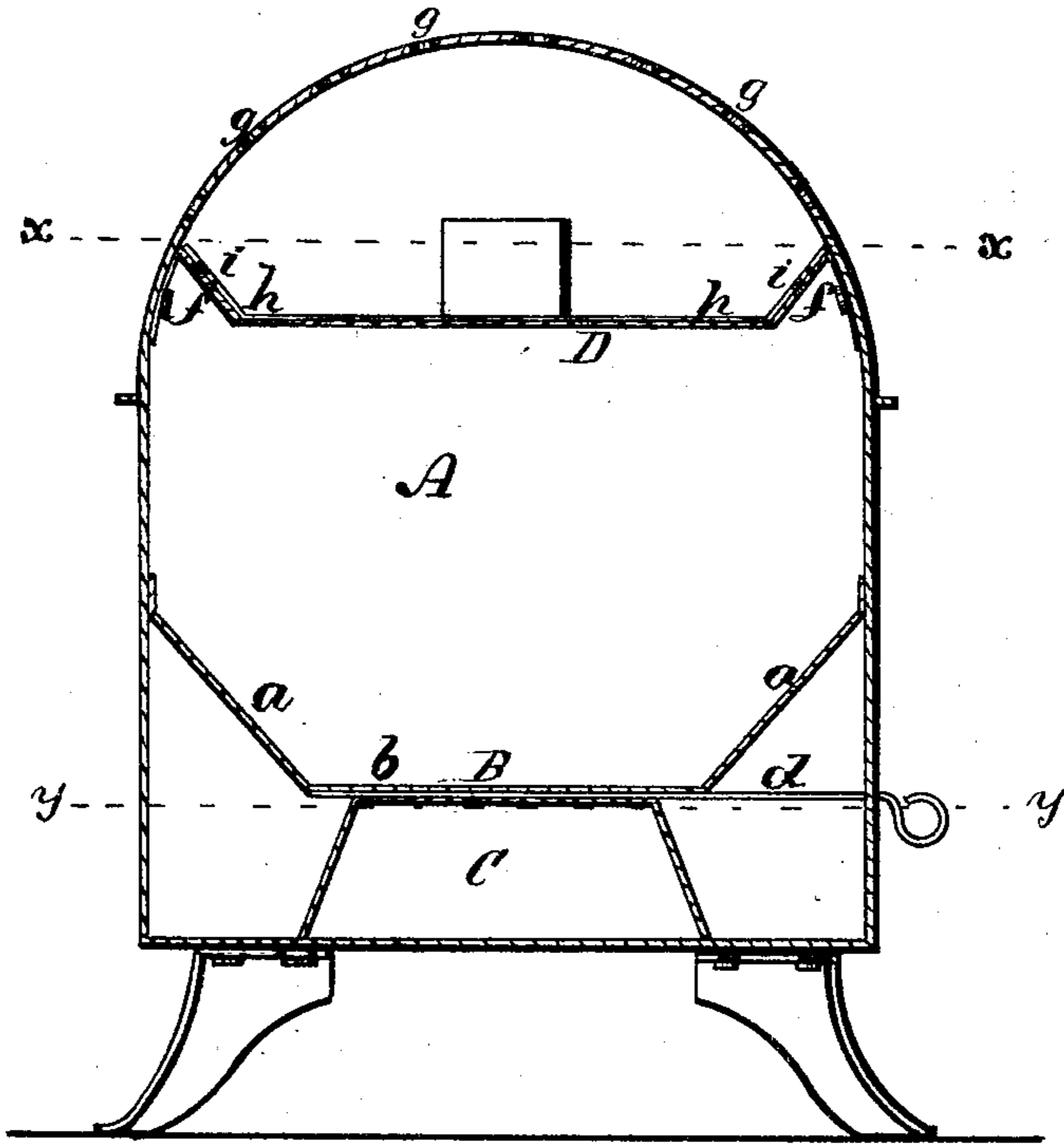


Fig. 2.



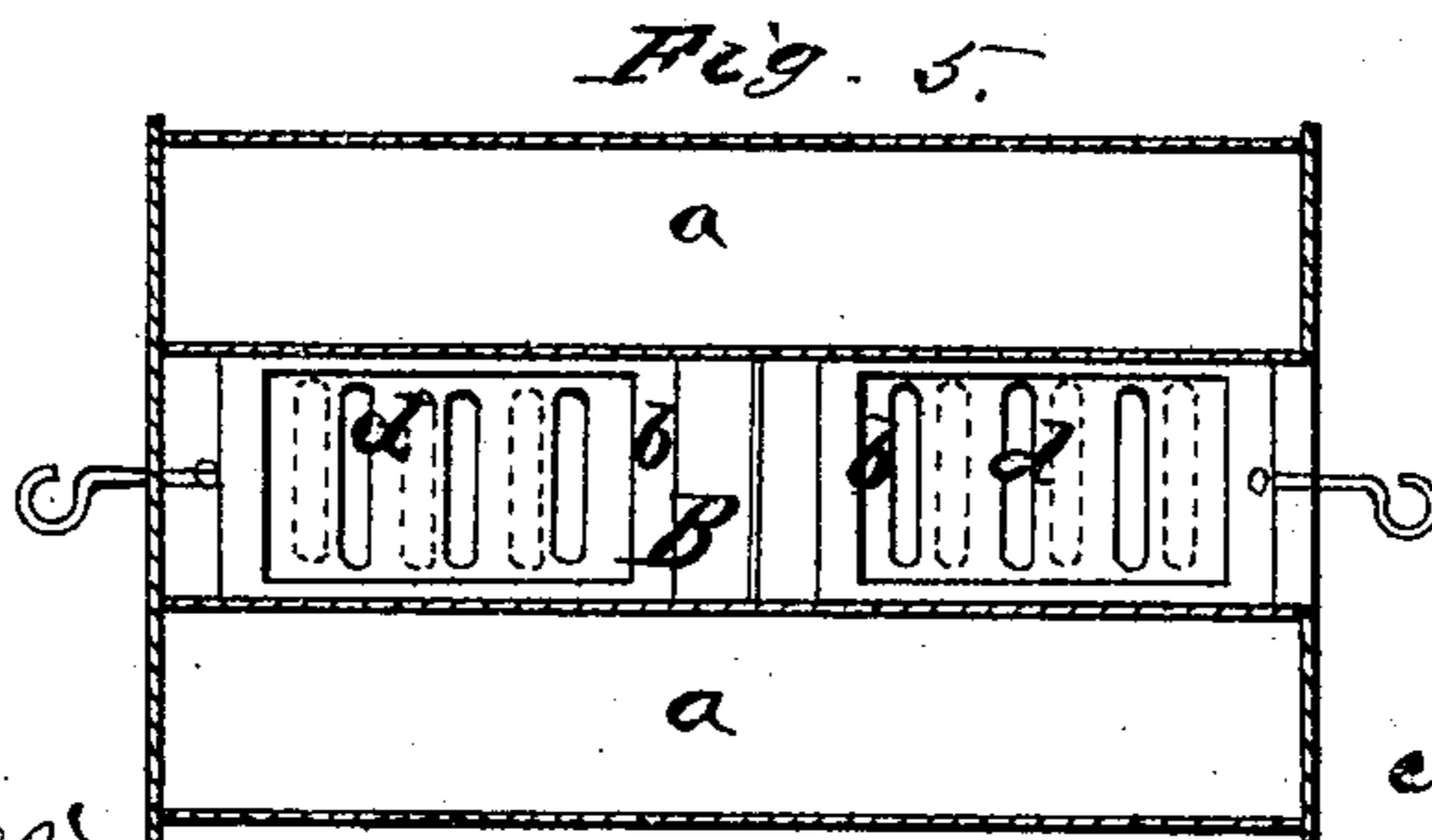
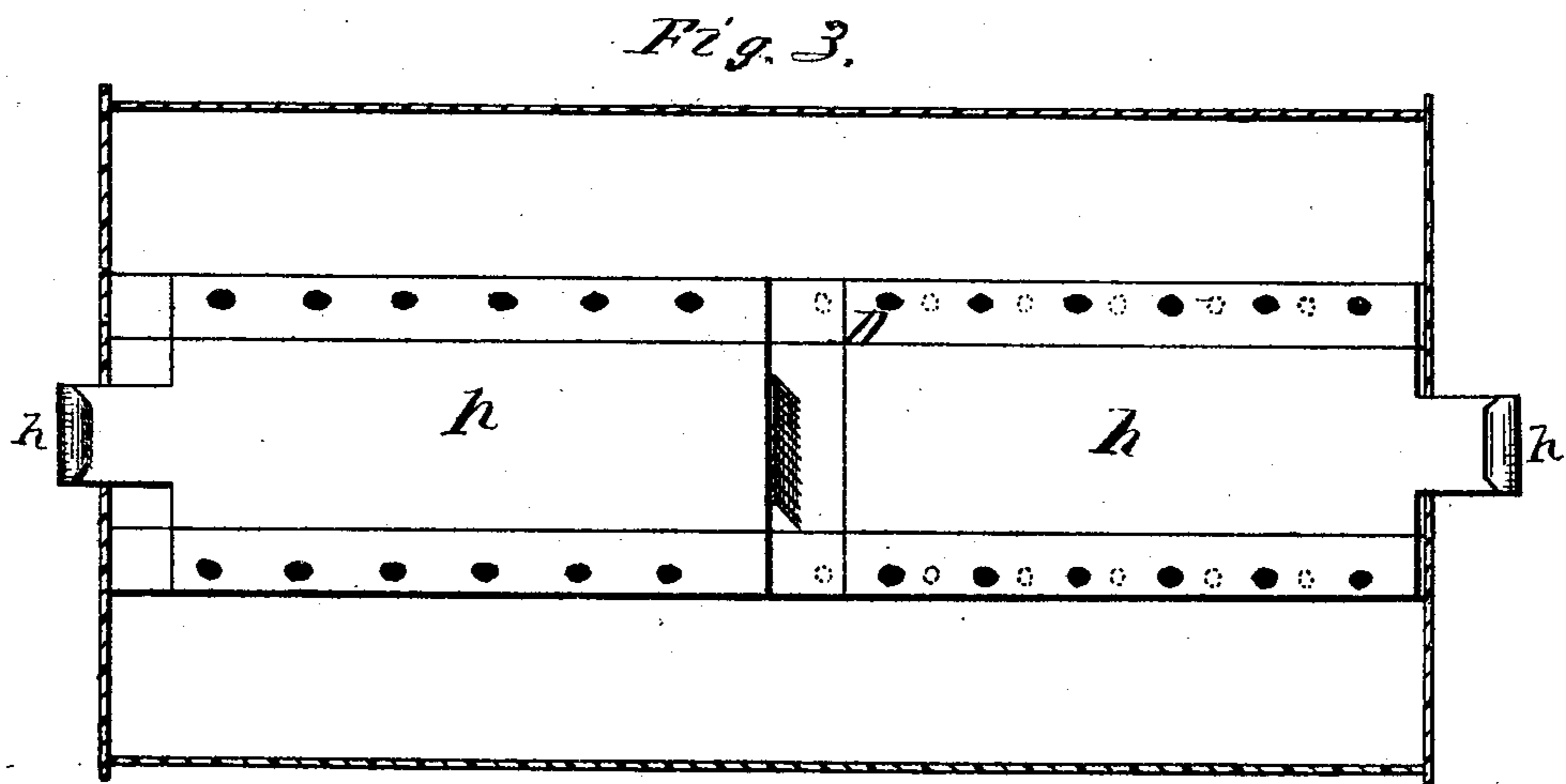
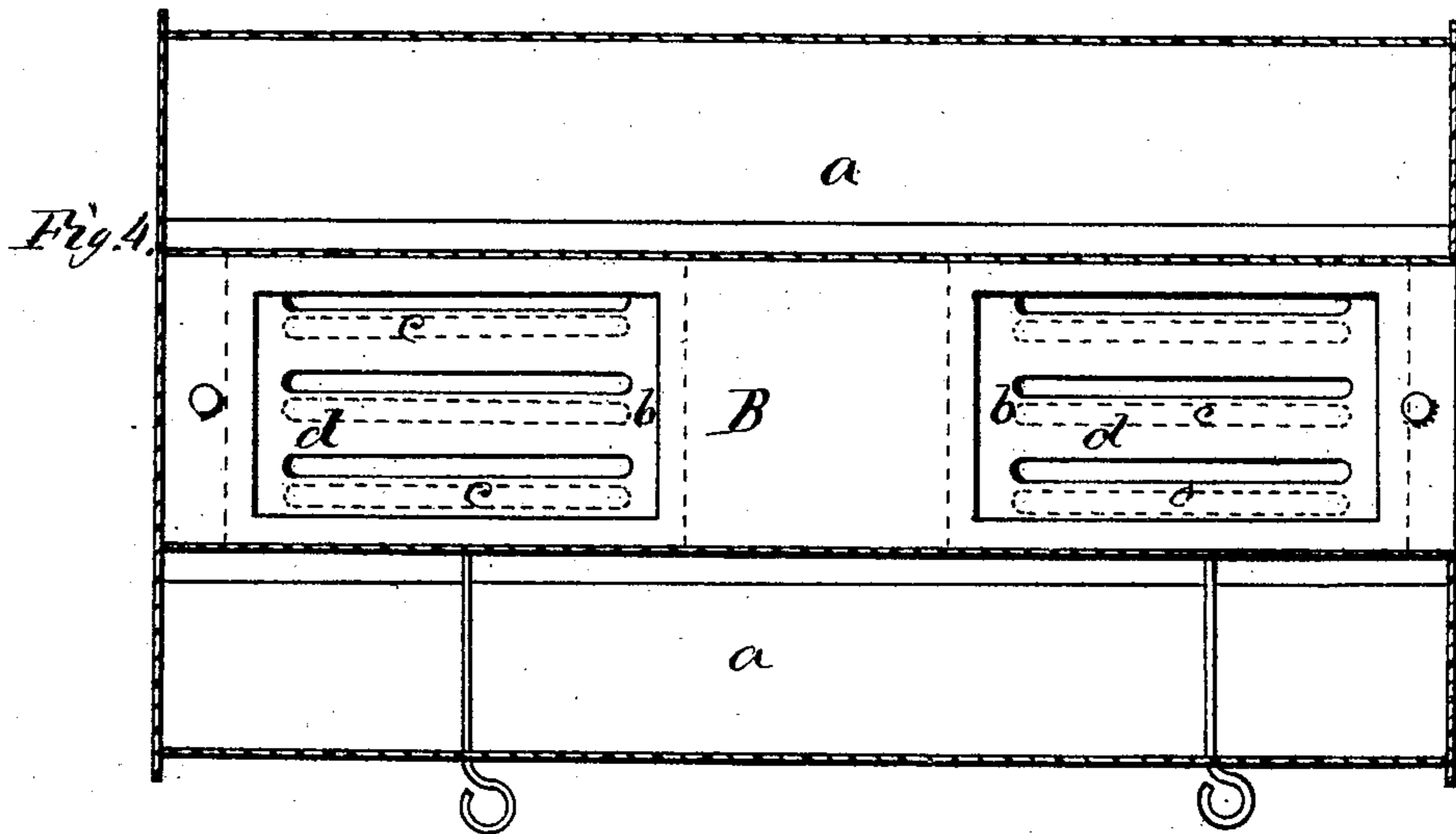
Witnesses.
 C. M. Sallaker.
 Geo. P. Barth

Inventor.
 Isaac N. Deardorff,
 By his atty.
 J. S. Brown.

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Witnesses,
Chas. M. Gallahan,
Geo. P. Bartle

Inventor,
Isaac N. Deardorff,
Myself atty.,
Jos. Brown.

UNITED STATES PATENT OFFICE.

ISAAC N. DEARDORFF, OF CANAL DOVER, OHIO.

IMPROVEMENT IN STOVES FOR SMOKE-HOUSES.

Specification forming part of Letters Patent No. **145,054**, dated December 2, 1873; application filed July 9, 1873.

To all whom it may concern:

Be it known that I, ISAAC N. DEARDORFF, of Canal Dover, in the county of Tuscarawas and State of Ohio, have invented an Improved Stove for Smoke-Houses; 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 the stove; Fig. 2, a transverse vertical section of the same; Fig. 3, a longitudinal section thereof, looking downward, in a plane indicated by the line *x x*, Fig. 2; Fig. 4, a horizontal section thereof, looking upward, in a plane indicated by the line *y y*, Fig. 2; Fig. 5, a detailed view, showing a modification of parts represented in Fig. 4.

Like letters designate corresponding parts in all of the figures.

Let A represent the smoke-chamber of the stove; B, the grate, and C the ash-chamber, thereof.

The nature of my invention consists, first, in the construction of the grate B, with inclined sides *a a*, and horizontal middle portion *b*, provided with (preferably oblong) grate-apertures *c c* therein, which are wholly or partially opened and closed by means of a damper or dampers, *d d*, two being shown in the drawings, one for the front part or half of the grate, and the other for the rear part of the grate.

There may be three sections—a middle one in addition to the end sections—or even more than three, if desired; and, instead of side sliding dampers, as shown in Fig. 4, there may be transverse dampers sliding at the ends, as shown in the diagram, Fig. 5.

By means of this grate and damper-regulators, the admission of air to the fuel and the combustion thereof can be regulated with great exactness, to suit dry or green fuel, or any other cause of variation in the combustion and smoke-producing circumstances.

The grate-bars may be made wholly or in part either of cast-iron or sheet-iron.

The second feature of my invention consists in the employment of an interior lining or par-

tion plate, D, in the upper part of the smoke-producing chamber A, having one or more rows of perforations, *f f*, through the same, for the purpose of arresting the escape of heat and of sparks from the stove, these interior vent-apertures being additional to the regular outer apertures *g g* in the top of the stove.

The apertures *f f* are opened and closed, wholly or partially, by means of a damper or dampers, *h h*, two being represented in the drawings, one at one end of the stove, and the other at the other end of the stove, and sliding either endwise of the stove, as shown, or side-wise.

These dampers have holes *i i*, corresponding in size and position with the holes in the partition-plate D, so that when the damper is moved one way the apertures in the partition-plate will be uncovered, as shown at the left hand in Fig. 3, and when the damper is moved in the other direction the partition-plate apertures will be covered, as indicated at the right hand in the same figure. These dampers also serve to regulate somewhat the combustion in the stove below, according to the condition of the wood, or the draft of the stove.

The apertures *f f* are represented as being in inclined parts of the partition-plate D. Any other equivalent construction or arrangement of parts may be employed.

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

A smoke-producing stove provided with the grate B, regulated by the grated dampers *d d*, and the inner perforated partition-plate D in its upper part, regulated by a damper or dampers, *h h*, as described, whereby the draft and combustion are so regulated as to give out the least heat and the greatest amount of smoke, as required, substantially as herein specified.

Specification signed by me this 14th day of March, 1873.

ISAAC N. DEARDORFF.

Witnesses:

JOS. BRAUCHER,
PH. H. MOORE.