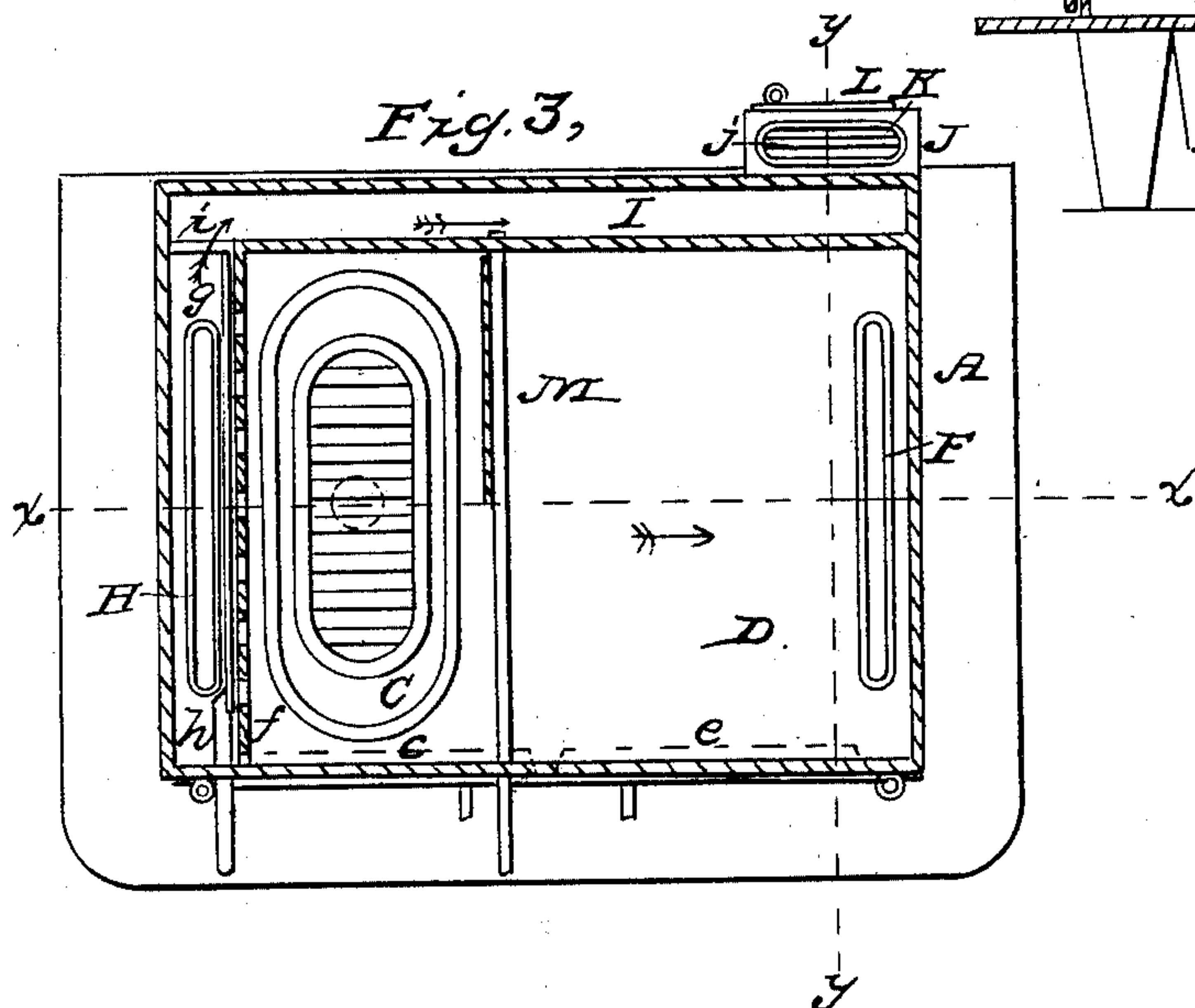
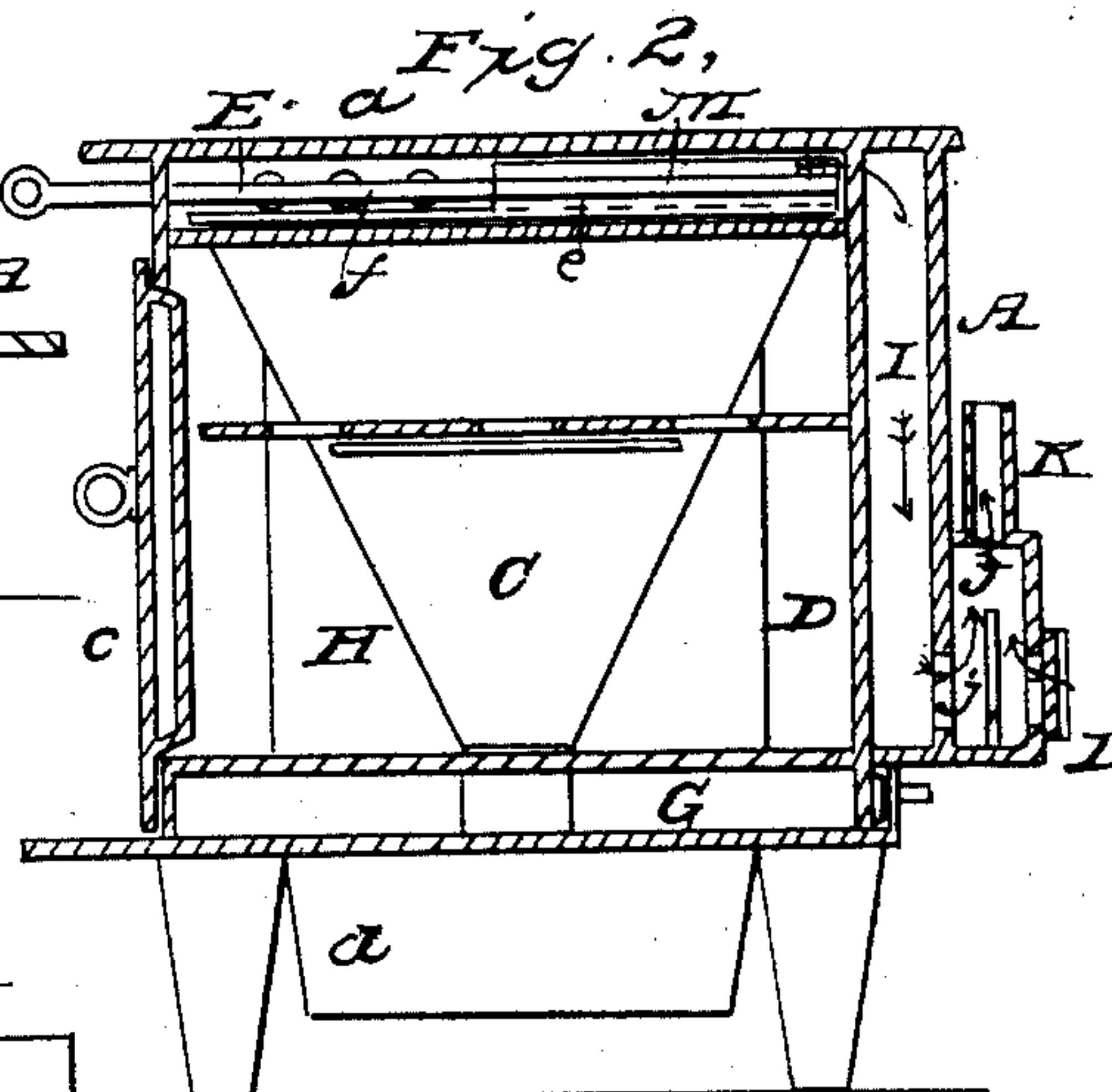
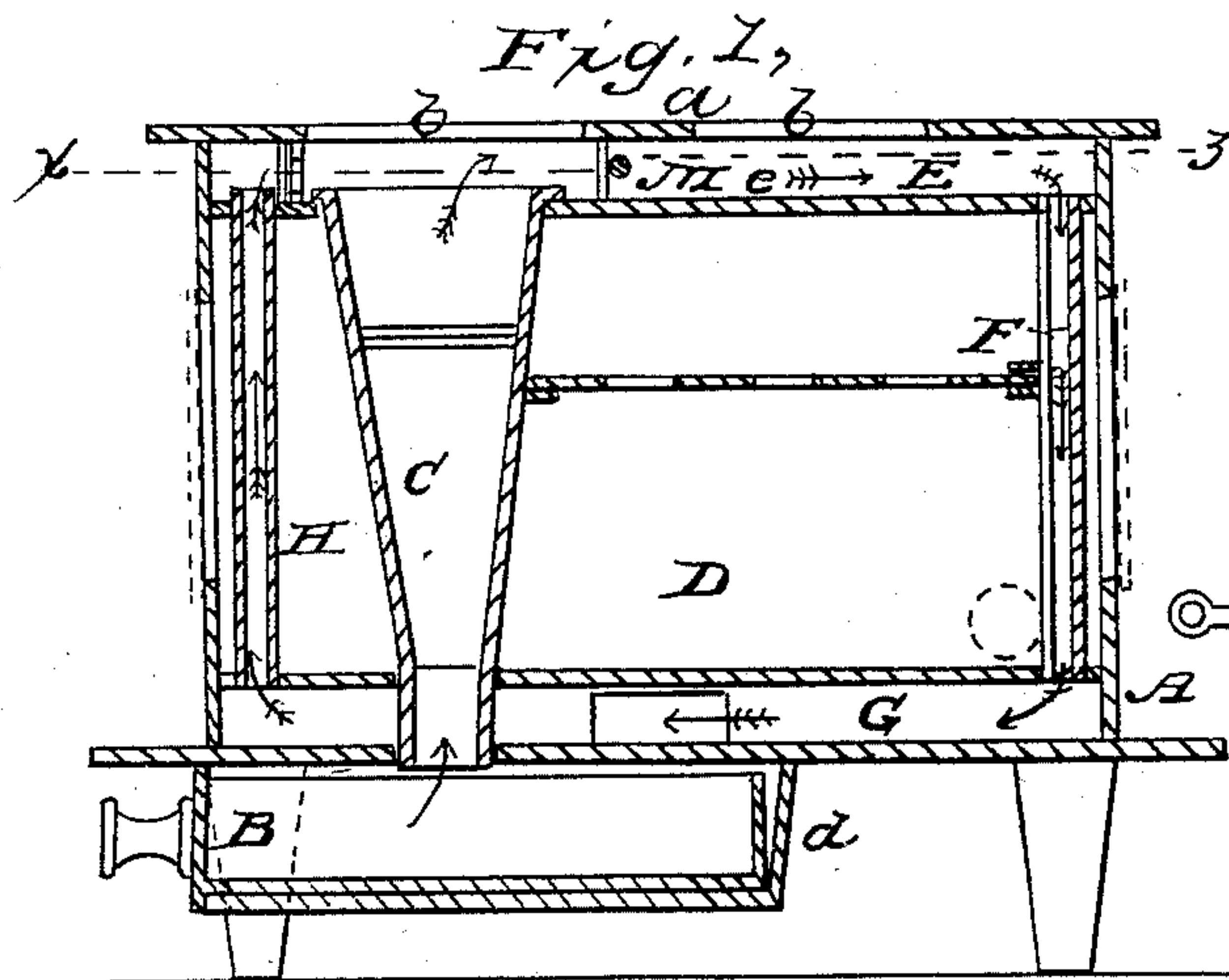


W. D. BARTLETT.

Cooking Stove.

No. 34,871.

Patented April 8, 1862.



WITNESSES:

J. W. Coombs
G. W. Reed

INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM D. BARTLETT, OF AMESBURY, MASSACHUSETTS.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 34,871, dated April 8, 1862.

To all whom it may concern:

Be it known that I, WILLIAM D. BARTLETT, of Amesbury, in the county of Essex and State of Massachusetts, have invented a new and Improved Cook-Stove; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention, taken in the line xx , Fig. 3; Fig. 2, a transverse vertical section of the same, taken in the line yy , Fig. 3; and Fig. 3, a horizontal section of the same, taken in the line zz , Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a cook-stove which will have a much greater radiating-surface presented to its oven than usual, thereby not only effecting a material saving in fuel, but also insuring greater efficiency and perfection in baking.

The invention consists in having the fire-pot of the stove placed within the oven and having the latter encompassed or surrounded with flues communicating with the fire-pot and smoke-pipe, the base on which the latter is fitted being provided with a novel check-valve, and all arranged substantially as hereinafter fully shown and described, whereby the desired end is attained.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the body of the stove, which is of quadrilateral form and has its top plate a provided with a requisite number of pot-holes b , as usual. The doors cc of the oven are at the front side of the stove, and underneath the stove at one side there is a chamber d , which receives an ash-drawer B.

C is the fire-pot, which is placed wholly within the oven D of the stove. This fire-pot may be described as being of oblong funnel shape, its lower end passing through the bottom of the stove and communicating with the chamber d and consequently with the ash-drawer B, when the latter is in its chamber d . The top of the fire-pot is equal in width and length to the oven. The flue E at its right-hand side communicates with a vertical flue

F, which is within the oven D and has its lower end communicating with a flue G, which is underneath the oven D, said flue G extending the whole length and width of the oven and communicating at its left-hand side with the lower end of a vertical flue H, which is also within the oven D and has its upper end communicating with flue E above the oven. Within the flue E, at the left-hand side of the fire-pot C, there is a vertical perforated partition-plate f , behind which a perforated slide g' is placed. The perforated plate and slide form a damper by which communication may be allowed or cut off between the flues E H, as desired. The space h between the plate f and the side of the stove communicates by means of an opening i with a flue I, which extends over the whole surface of the back of the stove and communicates at its right-hand lower corner with a chamber J, the upper end of which is provided with a flange K to receive the stove-pipe. The chamber J is provided with a vertical central partition j , which extends upward within sufficiently high to be above a door or valve L at the outer side of the chamber. (See Fig. 2.) The flue E also has a damper M within it.

The flues F H within the oven D may be described as being flat tubes, which may be nearly equal in width to the oven D, but do not require to be of great width in their transverse section. (See Fig. 3.)

The operation is as follows: When the oven is in use for baking and all possible heat required, the perforations in plate f are closed by adjusting the slide g . The products of combustion therefore pass along the flue E, down flue F into flue G, and then along into the lower end of flue H, and up flue H into space h , and thence through the opening i into flue I, and from flue I into the chamber J, and thence into the smoke-pipe. By this arrangement it will be seen that the oven D is exposed at five sides to a heating-surface—to wit., at its top, bottom, two sides, and at the back besides. The fire-pot C radiates its heat entirely within the oven, as well as the two upright flues F H. The oven D therefore will be heated very effectually, and consequently will perform its work in a thorough manner. When a direct draft is required, the perforations f are opened by adjusting the

slide *g*, and the products of combustion pass from the fire-pot C direct into the space *h* and from thence into flue I, the circuitous route around the oven being thereby avoided. In consequence of having the fire-pot C within the oven all dust is avoided—that is to say, prevented from escaping into the room—and the draft of the stove may be checked at any time for the purpose of regulating the temperature of the room, the partition *j* compelling the cold air to ascend upward into the smoke-pipe without interfering with the warm draft from flue I. The admission of the cold air into the smoke-pipe checks the draft of the stove, and at the same time the partition *j* allows the gases to pass up into the smoke-pipe, none escaping into the room.

The partition *j* in the chamber J is very essential, as it protects the flue I from cold air, which would otherwise pass into it and reduce its temperature, so as to prevent the escape of gases from said flue up into the smoke-pipe. In checking the draft of a stove by the admission of cold air into the smoke-pipe it is necessary that the flues of a stove be not so reduced in temperature as to prevent the escape of gases from the fire-chamber. If this result is not attained, the gases will escape into the room the same as when an ordinary damper is used.

There is another advantage of the fire-pot and flues when arranged as shown, which is believed has not been hitherto attained, and that is the facility of obtaining either a direct or circuitous draft. This result in a complex arrangement of flues and fire-pot inclosed within an oven is an important feature, and so far as I am aware a plurality of dampers have been employed to effect the result, but only with partial success.

I do not claim, broadly, admitting cold air into the smoke-pipe of a stove for the purpose of checking the draft thereof, for that has been previously done; but

I do claim as new and desire to secure by Letters Patent—

1. The placing of the fire-pot C and flues F H within the oven D, arranged relatively with each other, as shown, and with the flues E G I at the top, bottom, and back of the oven, substantially as and for the purpose set forth.

2. The chamber J, communicating with the flue I and stove-pipe when said chamber is provided with a partition *j*, and valve or door L, arranged as and for the purpose set forth.

WM. D. BARTLETT.

Witnesses:

THOMAS I. CLARK,
WM. J. BOARDMAN.