

(No Model.)

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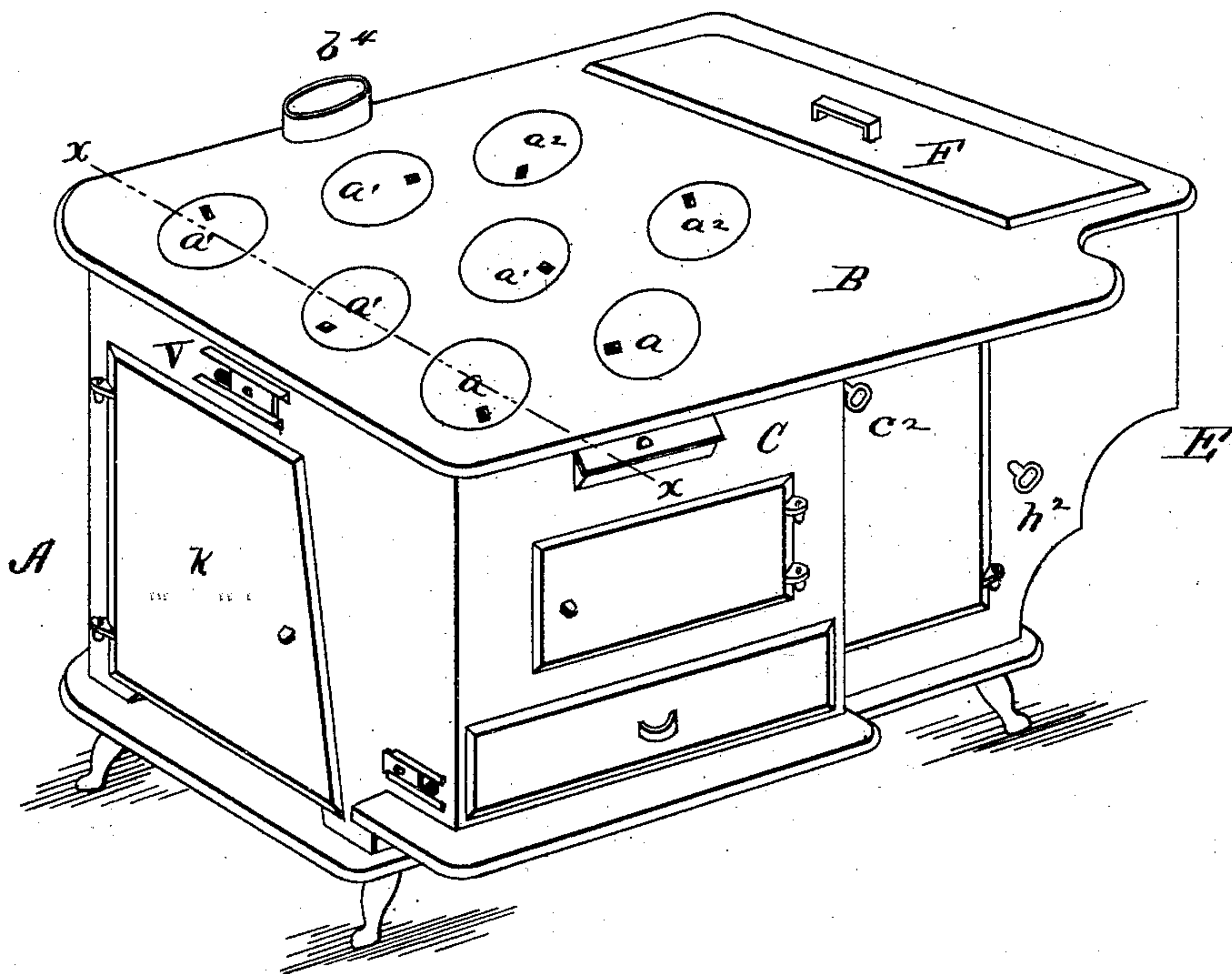
R. M. HERMANCÉ.

STOVE OR RANGE.

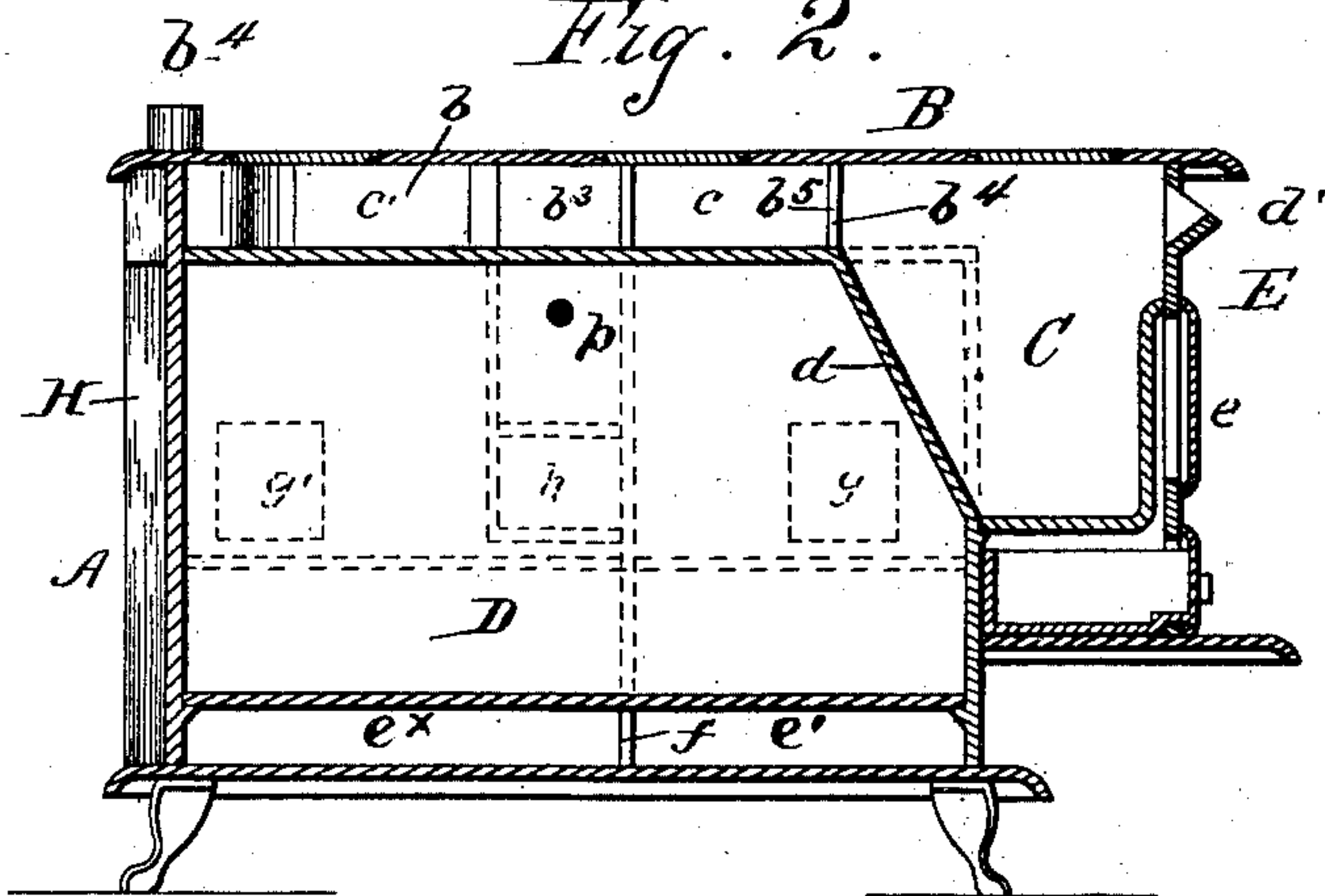
No. 375,630.

Patented Dec. 27, 1887.

*Fig. 1.*



*Fig. 2.*



Witnesses

Percy White  
C. H. Davis

Inventor

Richard M. Hermance  
By his Attorney  
C. M. Alexander

(No Model.)

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Fig. 3.

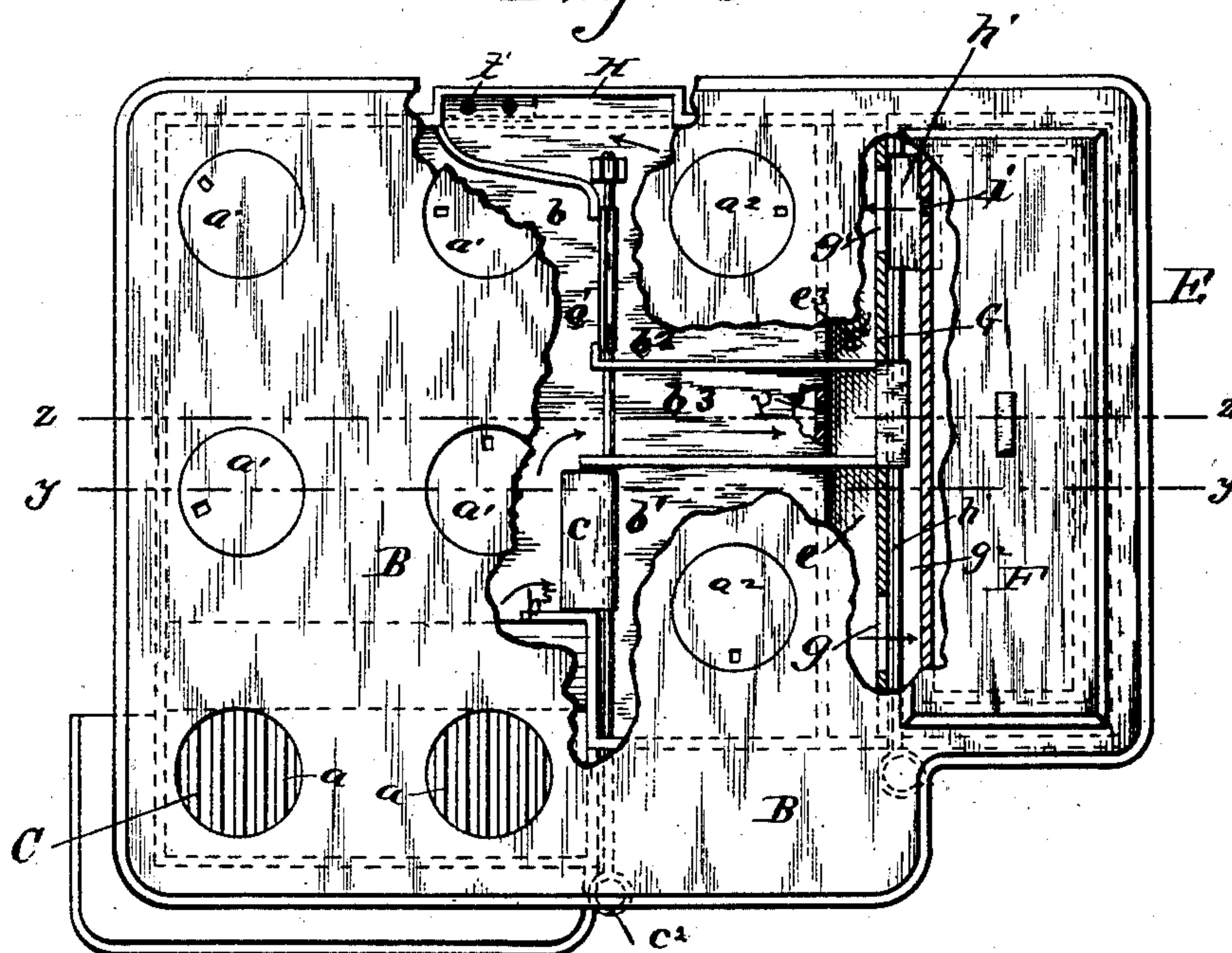
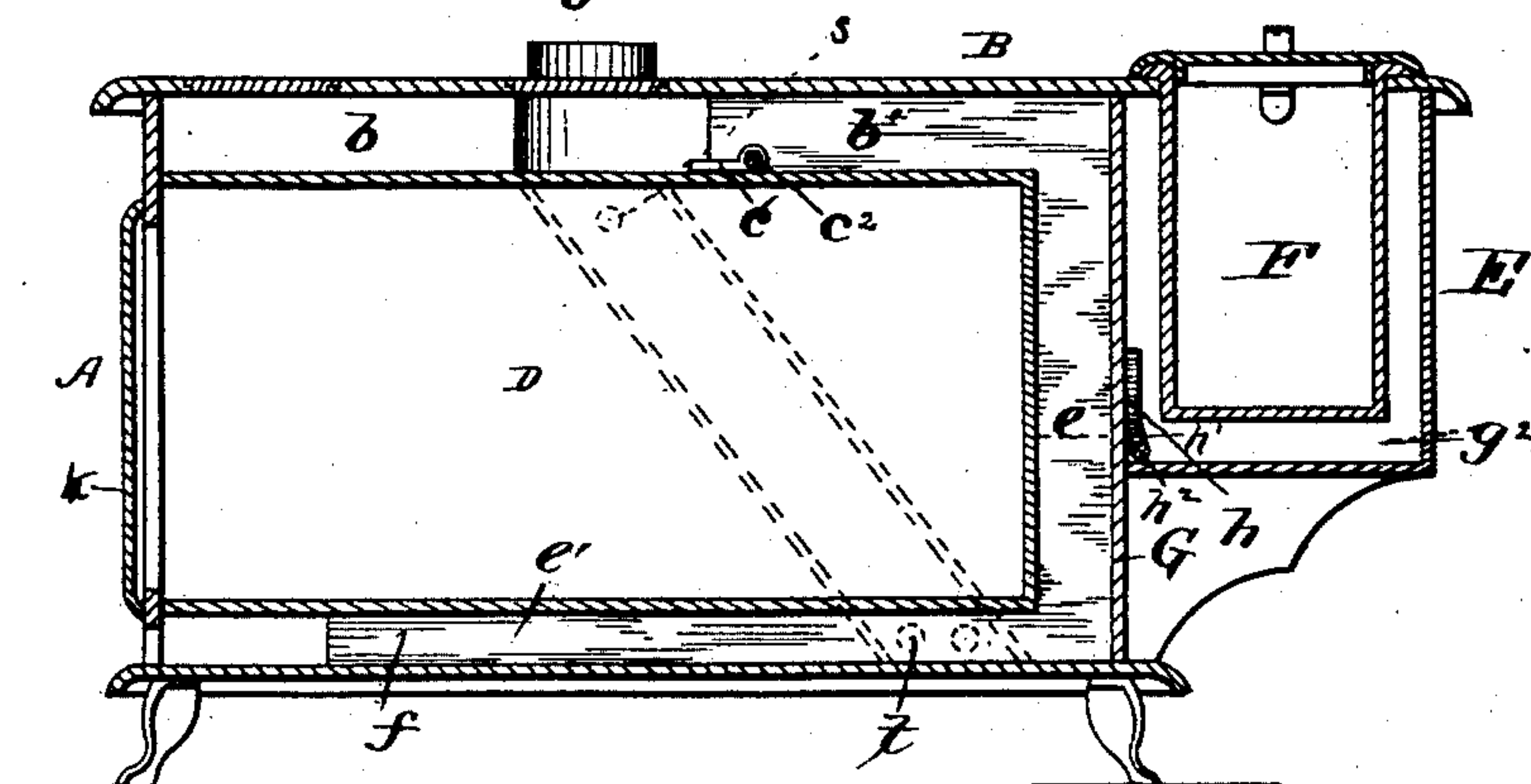


Fig. 4.



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3 Sheets—Sheet 3.

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Fig. 5.

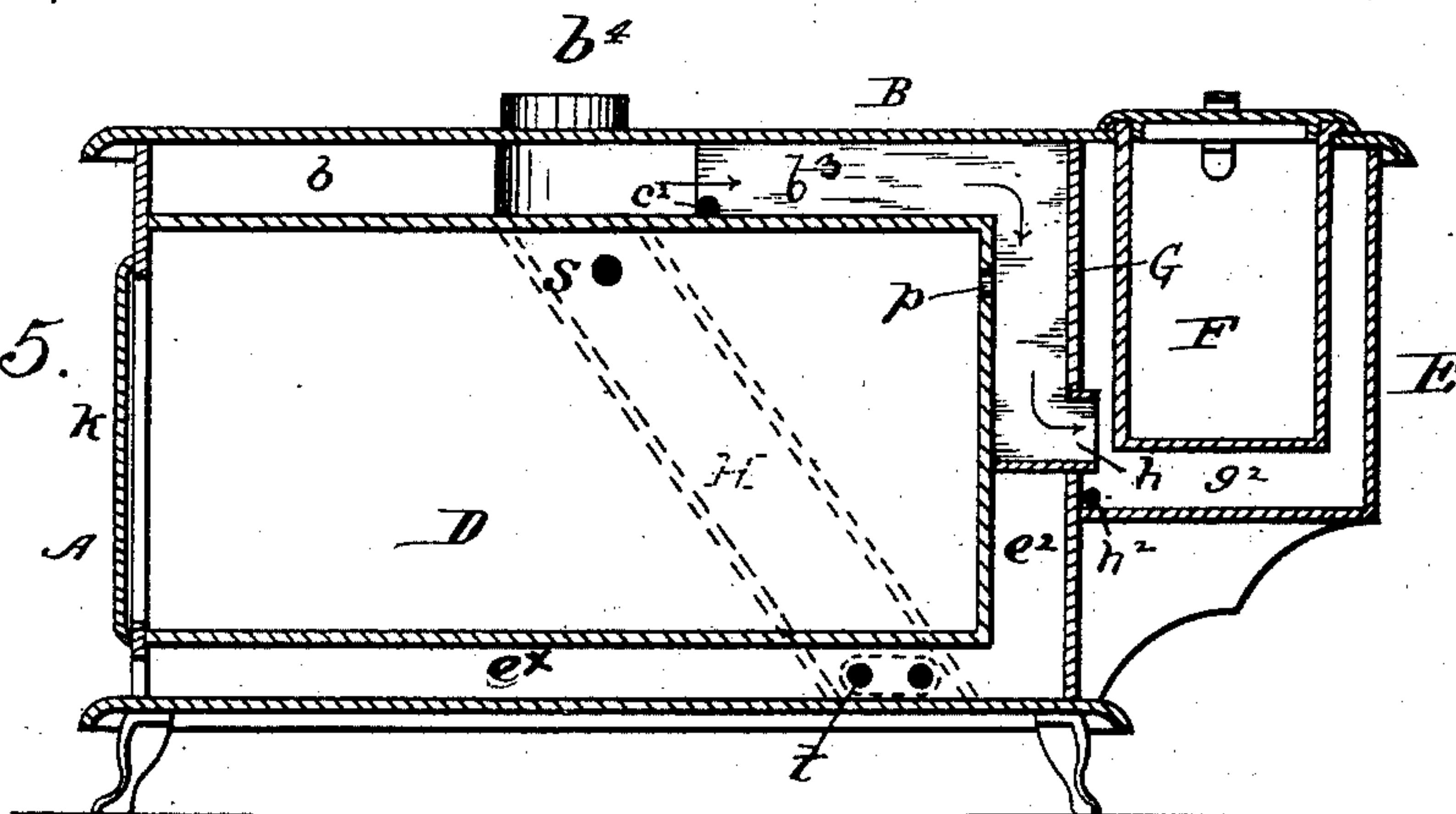


Fig. 6.

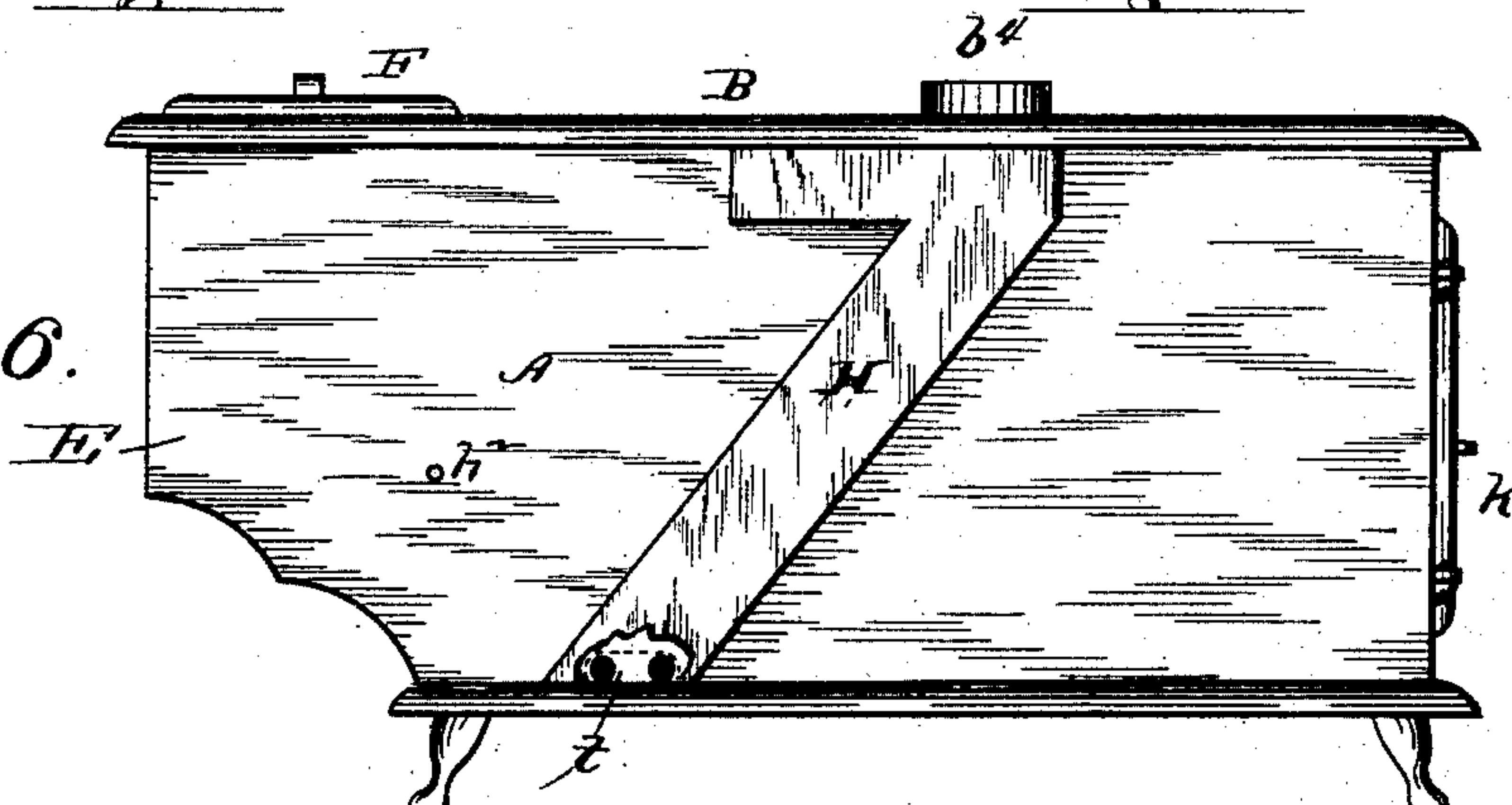
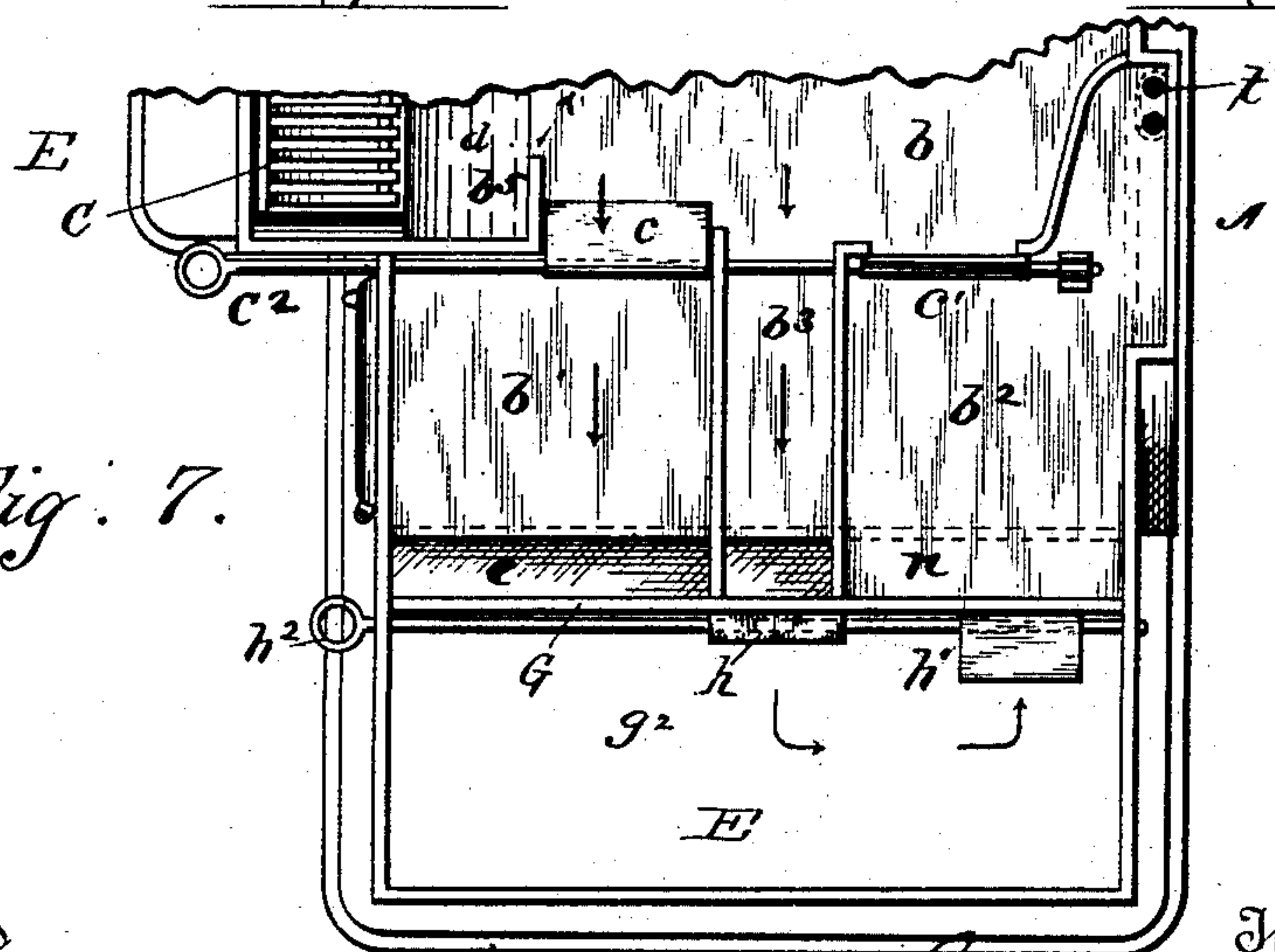


Fig. 7.



Witnesses

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# UNITED STATES PATENT OFFICE.

RICHARD M. HERMANCÉ, OF POUGHKEEPSIE, NEW YORK.

## STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 375,630, dated December 27, 1887.

Application filed January 24, 1887. Serial No. 225,352. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD M. HERMANCÉ, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Stoves or Ranges; and I do 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 it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in cooking-stoves having low-down reservoirs, which improvements will be fully understood from the following description, when taken in connection with the claims and annexed drawings, in which--

Figure 1 is a perspective view of my improved stove complete. Fig. 2 is a vertical section taken in the plane indicated by dotted line  $x x$  on Fig. 1. Fig. 3 is a top view of the stove, a portion of the top pot-hole plate being broken away to expose certain parts below it. Fig. 4 is a vertical transverse section through the stove in the plane indicated by dotted line  $y y$  on Fig. 3. Fig. 5 is a vertical transverse section through Fig. 3, taken in the plane indicated by dotted line  $z z$  thereon. Fig. 6 is an elevation of one side of the stove, showing the inclined ventilating-flue. Fig. 7 is a top view in detail with the top plate of the stove removed, showing one of the vertical ascending flues closed at its upper end by an extension of the top oven-plate, this being a modification of my invention.

Referring to the annexed drawings by letters, A designates the outer walls of my improved stove, and B the top plate, through which are a series of pot-holes, two ( $a a$ ) of which are located directly over the fire-box C, four ( $a'$ ) over the horizontal chamber  $b$ , and two ( $a'' a''$ ) over the flues in rear of the dampers  $c c'$ , which latter are applied on a single rod,  $c^2$ , in planes at right angles to each other, as shown in Figs. 3 and 7. The fire-box C extends partly into the oven and is located at one corner thereof, as indicated in Fig. 3, and it is arranged lengthwise of the body A of the

stove. This fire-box extends partly or wholly in the oven D, for heating the same, as well as giving more room in the oven and enabling me to apply the heat more evenly to vessels in the pot-holes, whether the direct damper  $c'$  is open or closed. The said fire-box C is provided with an inclined back wall,  $d$ , a fuel-feed,  $d'$ , a grate, a front door, and an ash-pit drawer, as shown in Fig. 2.

On one side of the fire-box is the main oven-door  $k$ , and on the opposite side of this box is a supplemental smaller door,  $c^2$ , both affording access to the oven.

Above the oven D and below its top plate, B, is the horizontal flue  $b$ , the smaller flues,  $b' b^2$ , and also an intermediate flue,  $b^3$ . At the outlet  $b^4$  of the fire-box, leading into the flue  $b$ , is a short contracting-plate,  $b^5$ , which not only somewhat contracts said outlet laterally, but operates to direct the products of combustion toward the front of the flue  $b$  before they pass into any one of the horizontal flues  $b' b^2$ . It is proper here to remark that when one of these latter flues is open the other is closed, and vice versa, the dampers  $c c'$  being adjusted for this purpose. The said contracting plate  $b^5$  not only serves the purpose above described, but it also affords a substantial support for the top plate, B. The flue  $b'$  communicates with a vertical flue,  $e$ , which in turn communicates with a horizontal flue,  $e'$ , on one side of a partition,  $f$ , thus directing the heated products toward the front of the oven beneath the same. From the front of the oven the heated products are directed backward on the opposite side of the partition  $f$ , through a flue,  $e^x$ , to and through the flue  $e^3$ , and through the flue  $b^2$  to the common outlet  $b^4$ . This course of the currents takes place when the indirect damper  $c$  is opened and the direct damper  $c'$  is shut, as shown in Figs. 3 and 7.

When the damper  $c$  is shut and the damper  $c'$  is opened, most of the products of combustion pass from the flue-chamber  $b$  directly into the flue  $b^2$ , and thence out through the pipe  $b^4$ .

E designates a low-down reservoir-casing on the plate G, in which is suspended the reservoir F. Through the wall G are three passages, which communicate with the space surrounding the reservoir F. The passage  $g$  leads from



the vertical flue  $e$  into the said space  $g^2$ , the passage  $g'$  leads from said space into the vertical flue  $e^3$ , and the passage  $h$  leads from the narrow vertical flue  $b^3$  into said space  $g^2$ . The passage  $g'$  is provided with a damper,  $h'$ , fast on the rod  $h^2$ , as shown in Fig. 7.

When the dampers  $c$   $h'$  are open, the products of combustion will pass from the flues  $e$   $h$  at the back of the oven into the space  $g^2$ , and thence through the passage  $g'$  into the flues  $e'$   $b^2$  and out through the passage  $b^4$ , thus highly heating the reservoir by utilizing a portion of the products of combustion on their way from the fire-box to the common outlet  $b^4$ .

$H$  designates an inclined flue on one side of the body of the stove, provided with one or more passages,  $t$ , at its bottom leading into this flue from the bottom flue,  $e^x$ , beneath the oven, and one or more openings,  $t'$ , leading from the top of this flue  $H$  into the flue  $b^2$ . This gives a direct outlet from the flue  $e^x$  to the escape-pipe  $b^4$ , whether the extension  $n$  of the top plate of the oven is employed or not. If this extension  $n$  is employed, the apertures  $t'$  should be enlarged, as indicated by dotted lines, Figs. 6 and 7.

It will be observed that I have a passage,  $s$ , leading through the upper part of the oven-wall into the inclined flue  $H$ , and also a passage,  $p$ , leading from the oven into the flue  $b^3$ . By these means I am able to properly ventilate the oven.

By reference to Fig. 3 it will be observed that I make an aperture,  $i$ , through the wall of the reservoir. This is done for the purpose of allowing steam to escape into the space  $g^2$ , and from thence to pass through aperture  $g'$  into the outlet-flues. I am thus able not only to prevent steam from the reservoir entering the room, but also in a great degree to facilitate the draft of the stove.

It will be seen from the above description that when an indirect draft over and under the oven is required I open damper  $c$  and close damper  $c'$ . When, as in starting a fire, a direct draft is required, I close damper  $c$  and open damper  $c'$ .

The narrow flue  $b^3$  and the vertical flue  $e$  are at all times in communication with the space  $g^2$  surrounding the reservoir  $F$ , and this space can be put in communication with the outlet-flue by opening the damper  $h'$ .

Directly above the front oven-door is a register,  $V$ , the object of which is to admit air in regulated quantities into the space  $b$  to mix with the highly-heated products therein, and thus promote the combustion of the smoke and gases. By means of this register  $V$  the heat in the oven can be tempered or regulated as may be required.

I do not wish to limit myself to the exact construction herein set forth, as many slight changes might be resorted to in the form and arrangement of the several parts shown and described without departing from the spirit and scope of my invention.

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

1. The combination, in a cook stove provided with an oven and a fire-box, the latter being located at one corner of its body, extending laterally into the oven, of the main flue  $b$ , directly over the oven and communicating with the fire-box, the narrow flue  $b^3$ , communicating with the main flue  $b$  and the space surrounding the reservoir, the reservoir and casing therefor attached to the stove-body, the flues  $b^2$  and  $b'$ , situated on each side of the flue  $b^3$  and communicating with the flue  $b$ , the dividing-flue  $e$ , communicating with the flue  $b'$  and the flues  $e'$   $e^x$  under the oven, the flues  $e'$   $e^x$ , the ascending flue  $e$ , connecting the flues under the oven with the flue  $b^2$ , and the dampers  $c$   $c'$ , applied to the flues  $b'$   $b^2$ , whereby the products of combustion may either be directed into the outlet directly or down under the oven, substantially as herein described.

2. The combination, in a cook-stove provided with an oven and a fire-box, of the reservoir and casing therefor attached to the stove, the flue  $b$  over the oven, the flue  $b^3$ , connecting the flue  $b$  with the space around the reservoir, the flues  $b'$   $b^2$ , communicating with the flue  $b$ , the dampers  $c$   $c'$ , applied to said flues, the dividing-flue communicating with the flue  $b'$  and also with the space surrounding the reservoir by the opening  $g$ , the flues  $e'$  and  $e^x$  under the oven and connecting the dividing-flue  $e$  with the ascending flue  $e^3$ , the ascending flue  $e^3$ , communicating with the flue  $b^2$  on top of the oven and also with the space surrounding the reservoir by the opening  $g'$  in the wall of the stove, and the damper  $h'$ , applied to the opening  $g'$ , as and for the purposes specified.

3. The combination, in a cook-stove, of the oven  $D$ , the fire-box projecting laterally into the oven and located at one corner thereof, the doors  $K$  and  $c^2$ , communicating with the oven on each side of the said fire-box, the broad flue  $b$  over the oven, the flues  $b'$  and  $b^2$  and their dampers, the dividing-flue  $e$ , communicating with the flue  $b'$ , the flues  $e'$  and  $e^x$  under the oven and connecting the dividing-flue  $e$  with the ascending flue  $e^3$ , the ascending flue  $e^3$ , connecting the base-flue  $e^x$  with the flue  $b^2$  on top of the oven, and the inclined flue  $H$ , connecting the base-flues with the common outlet of the stove, substantially as described.

4. The combination, in a cook-stove, of the oven  $D$ , the fire-box located at one corner of the stove and projecting laterally into the oven, the broad flue  $b$  over the oven and communicating with the fire-box, the flues  $b'$   $b^2$ , communicating with the flue  $b$ , the dampers applied to said flues  $b'$   $b^2$ , and the flues  $e$   $e'$   $e^x$   $e^3$ , connecting the said flues  $b'$   $b^2$ , and the deflecting-plate  $b^5$ , located at one end of the fire-box outlet and partially contracting or closing the same, substantially as described.

5. The combination, in a cook-stove, of the



oven D, the fire-box C, the broad flue *b* over the oven and communicating with the fire-box, the flues *b' b<sup>2</sup>* on top of the oven and communicating with the flue *b*, the dampers applied to the said flues *b' b<sup>2</sup>*, the flues *e, e', e<sup>x</sup>*, and *e<sup>3</sup>*, leading down at the back and under the oven and connecting the said flues *b' b<sup>2</sup>*, the inclined flue H, leading to the common outlet of the stove and communicating by means of openings with the base-flue *e<sup>x</sup>* and the oven D, substantially as described.

6. The combination, in a cook-stove, of the oven D, the fire-box located at one corner of the stove and projecting laterally into the oven, the broad main flue *b* over the oven, the central flue, *b<sup>3</sup>*, connecting the flue *b* with the space surrounding the reservoir, the reservoir and casing attached to the stove, the flues *b' b<sup>2</sup>* on each side of the said flue *b<sup>3</sup>*, the dampers applied to the flues *b' b<sup>2</sup>*, the flues *e, e', e<sup>x</sup>*, and *e<sup>3</sup>*, connecting the flues *b' b<sup>2</sup>* and leading down around under the oven, the said flue *e<sup>3</sup>* communicating with the space surrounding the reservoir and the steam-space of the reservoir by means of openings *g'* and *i*, and the damper *h'*, applied to the said openings *g'*, substantially as described.

7. The combination, in a cook-stove, of the oven D, the fire-box C, projecting laterally into the corner of the said oven, the doors K, communicating with the oven, the broad flue *b* over the oven and communicating with the fire-box, the damper V, applied to the said flue *b*, the deflecting and contracting plate *b<sup>5</sup>* at one end of the fire-box outlet, the horizontal flues *b' b<sup>2</sup>*, communicating with the flue *b*, the dampers *c c'*, applied to the flues *b' b<sup>2</sup>*, the vertical flues *e e<sup>3</sup>*, communicating, respectively, with the flues *b' b<sup>2</sup>*, and also with the space surrounding the reservoir by means of openings *g g'*, the damper applied to opening *g'*, the reservoir and casing attached to the stove, and the horizontal base-flues *e' e<sup>x</sup>* under the oven and connecting the vertical flues *e* and *e<sup>3</sup>*, all arranged substantially as described.

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

RICHARD M. HERMANCE.

Witnesses:

THEO. L. HERMANCE,  
WM. D. RIGGS.