

W. J. KEEP.
Cooking Stove.

No. 90,756.

Patented June 1, 1869.

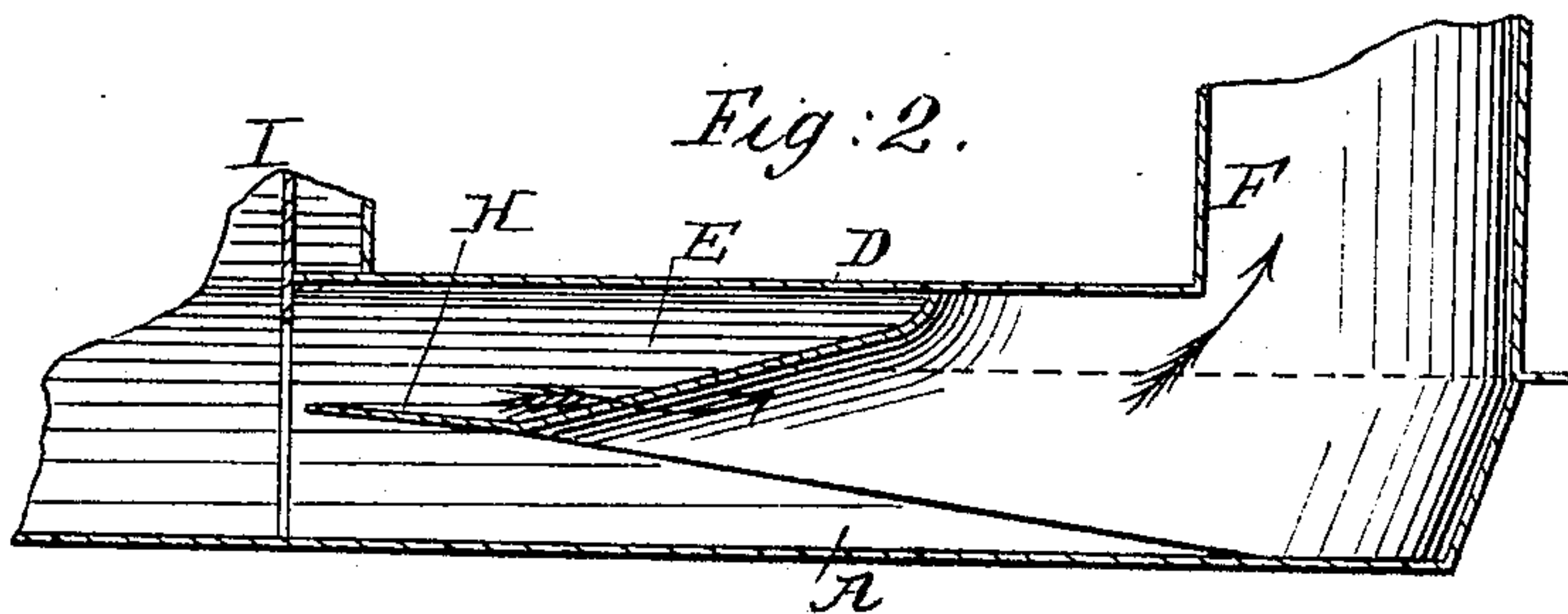
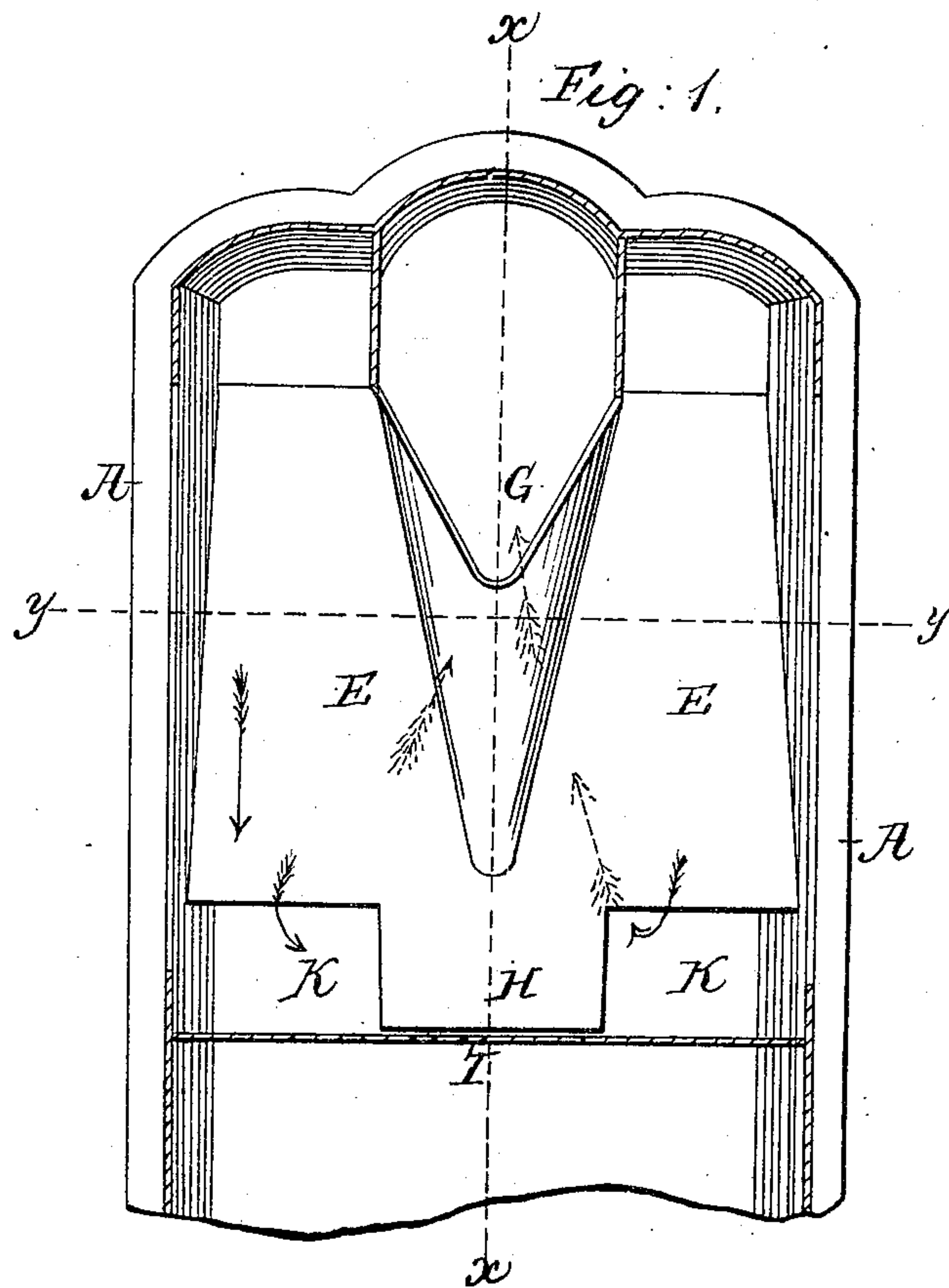
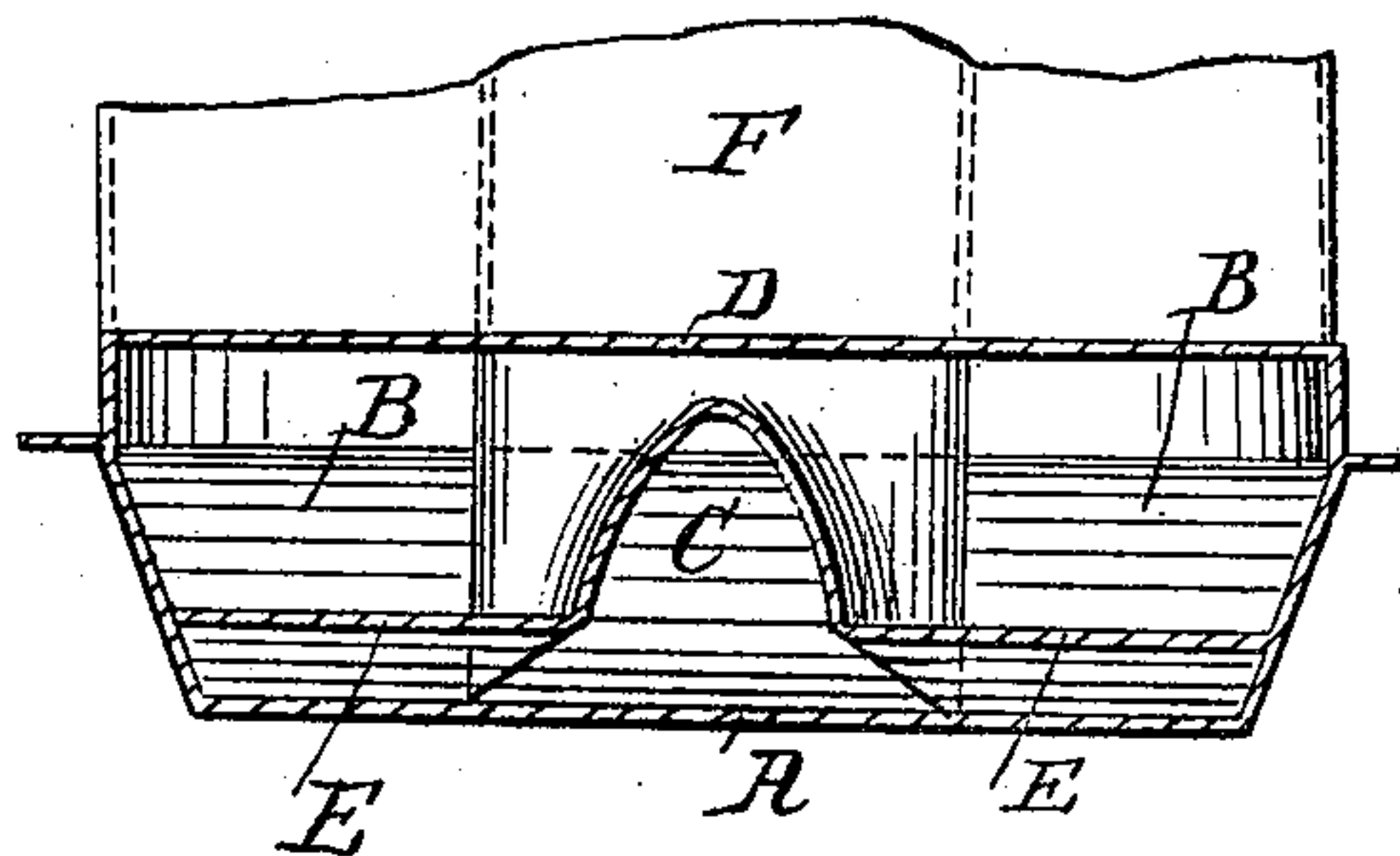


Fig: 3



Witnesses
Geo. H. Read
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Inventor.
W. J. Keep.
by Prindle & Tyler.
Attorney.

United States Patent Office.

WILLIAM J. KEEP, OF TROY, NEW YORK.

Letters Patent No. 90,756, dated June 1, 1869.

COOKING-STOVE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM J. KEEP, of Troy, in the county of Rensselaer, and in the State of New York, have invented certain new and useful Improvements in the Flues of Cooking-Stoves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a plan view of the flues beneath the oven, with the bottom oven-plate removed;

Figure 2 is a vertical longitudinal section of the same, on the line *xx* of fig. 1, with the bottom oven-plate in place; and

Figure 3 is a vertical cross-section, on the line *yy* of fig. 1.

Letters of like name and kind refer to like parts in each of the figures.

This invention is an improvement upon the patent of P. P. Stewart, for an improvement in cooking-stoves, issued April 12, 1859, and reissued May 17, 1864, and again, April 7, 1868; and

It consists in the employment of a flue-plate, dividing the flues beneath the oven, so constructed, as that its sides are depressed, and its centre raised, so as to increase the depth of the side and centre flues, substantially as is hereinafter described.

It also consists in so constructing said plate, as to permit the heated escaping products of combustion, passing to the rear of the stove through the centre return-flue, to strike the oven-bottom before reaching the rear ascending-flue, and there heat a triangular space upon said oven-bottom, which has, heretofore, received little or no direct heat.

In the annexed drawing—

A represents the bottom plate, extending beneath the oven, and containing the direct and return sheet-flues B B and C.

The bottom oven-plate D forms the top of the direct sheet-flues, and the bottom plate A, the bottom of the return sheet-flue, while the flue-plate E furnishes a division between said direct flues and the return-flue.

In order to give increased depth to said flues, the rear end of said flue-plate E rests upon the bottom stove-plate A, at or near a point in line with the rear oven-plate F, and from thence inclines upward, until its front end is equidistant from said bottom stove-plate A, and the bottom plate of the oven D.

This arrangement gives to the direct flues the entire depth of space at the rear end of the oven, where they are most liable to become clogged, by ashes falling through the descending-flues, and, in order that the return-flue may have equal depth, the flue-plate E is raised, or arched, at its centre, so as to strike against the bottom oven-plate D, at a point about one-third of the distance from the front to the rear of said oven,

from whence it slopes downward to the level of the plate, near its front end.

The raised, or arched portion of said plate E being removed on a line with the bottom oven-plate, a triangular space, G, opening into the return-flue, is left immediately in front of the ascending rear flue, for which said bottom oven-plate forms the cover, and thus enables the heated products of combustion to strike directly against, and heat said oven-plate, and, consequently, the oven, at that point where, heretofore, less heat has been received than at any other point of said oven.

The front end of the dividing-plate E extends forward, at its centre, H, to, or very near the vertical plate I, while rectangular pieces are removed from its corners, forming openings K K, through which the products of combustion pass, from above said plate, into the return-flue beneath.

This arrangement is necessary, in order that the front lower corners may be heated, as, in case an opening were left across the entire front of said division-plate, the heated products of combustion would pass downward near the central portion of said plate, and prevent said corners of the oven from receiving a sufficient amount of heat.

It will be observed that the flues, as herein described, divide the space laterally, at the rear end of the stove, into three nearly equal divisions, and that, by the construction of the division-plate, each flue occupies at that point all of the vertical space between the stove-bottom and bottom oven-plate, and is, consequently, as large as the construction of the stove will permit.

As the side-flues pass forward, they unite and extend across the entire breadth of the stove, so as to cause the heated products of combustion to pass beneath and heat nearly the entire lower surface of the bottom oven-plate, after which said products of combustion pass downward through the openings K K, into the return-flue, and from thence backward, until they unite in the centre, and impinge against the triangular space before mentioned, and then pass into the ascending-flue.

The upward inclination of the division-plate, from the rear to the front, throws the heated products of combustion upward against the bottom oven-plate, at the front end, or corner, where, otherwise, much difficulty would exist in securing sufficient heat, as the draught would naturally incline downward in a curve, and leave said corner.

Having thus fully set forth the nature and merits of my invention,

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

1. The separating of the direct sheet-flue from the return sheet-flue, by means of the arched dividing flue-

plate E, or any equivalent therefor, constructed, arranged, and combined with said sheet-flues, in the manner and for the purpose substantially as herein shown and described.

2. Also, the dividing of the space between the bottom oven and stove-plates, by means of the inclined and arched dividing flue-plate E, or any equivalent therefor, in the manner and for the purpose substantially as herein shown and described.

3. Also, the sheet-flue division-plate E, having a recess, K, at each front corner thereof, and a projection, H, between such recesses, and with an arched, or raised centre, extending from the rear end, to within a short distance of the front end thereof, substantially as and for the purpose herein set forth.

4. Also, the employment of the raised, or arched sheet-flue division-plate E, or any equivalent therefor, in combination with the oven and oven-bottom flues, in the manner and for the purpose substantially as herein described and set forth.

5. Also, the triangular opening G, or its equivalent, in and through the sheet-flue division-plate E, at or near to the rear end of the return sheet-flue, substantially as shown, and for the purpose specified.

In testimony that I claim the foregoing, I have hereto set my hand, this 26th day of April, 1869.

WILLIAM J. KEEP.

Witnesses:

GEO. S. PRINDLE,
SAML S. MARR.