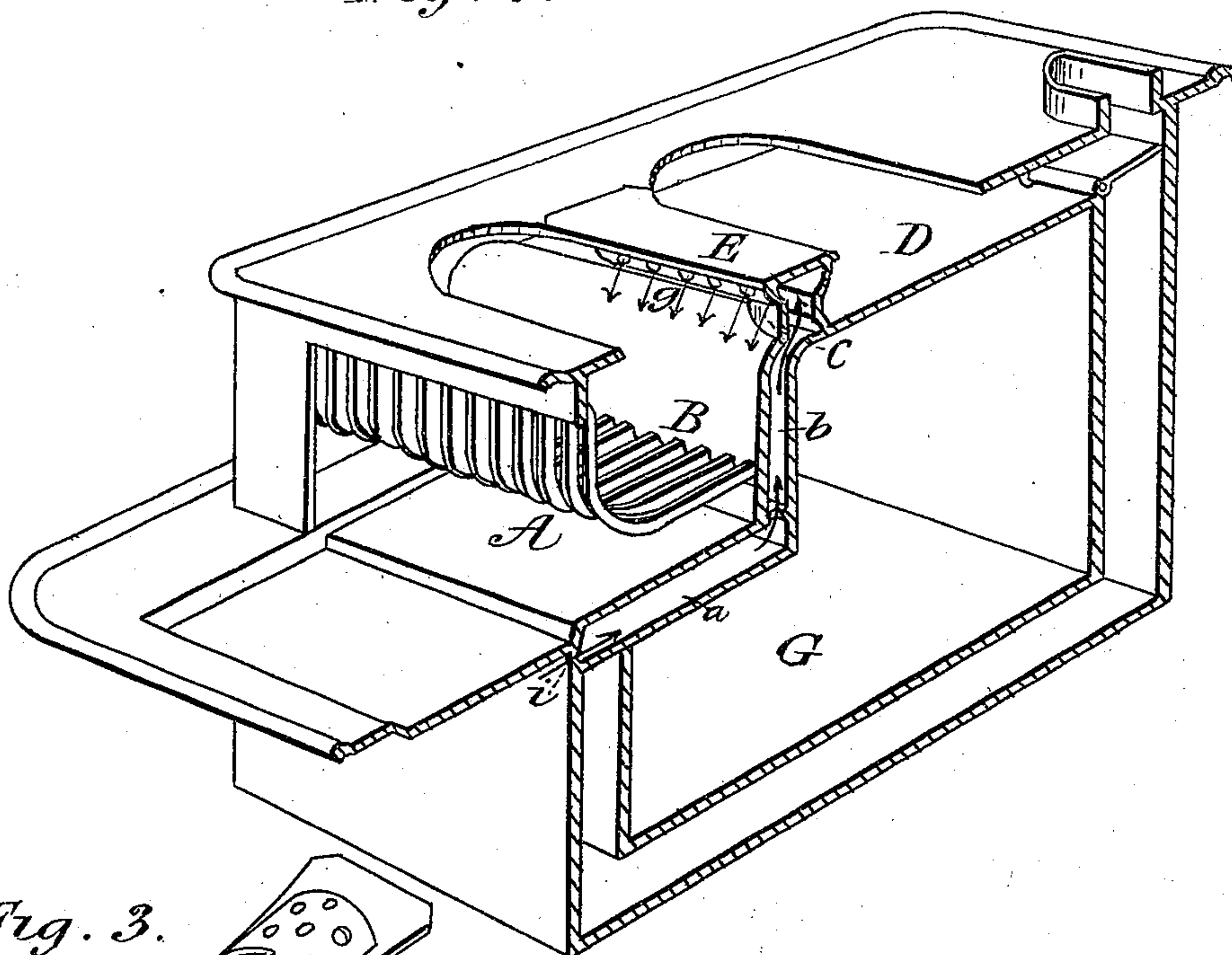


B. F. CLEMENT.  
Cooking Stove.

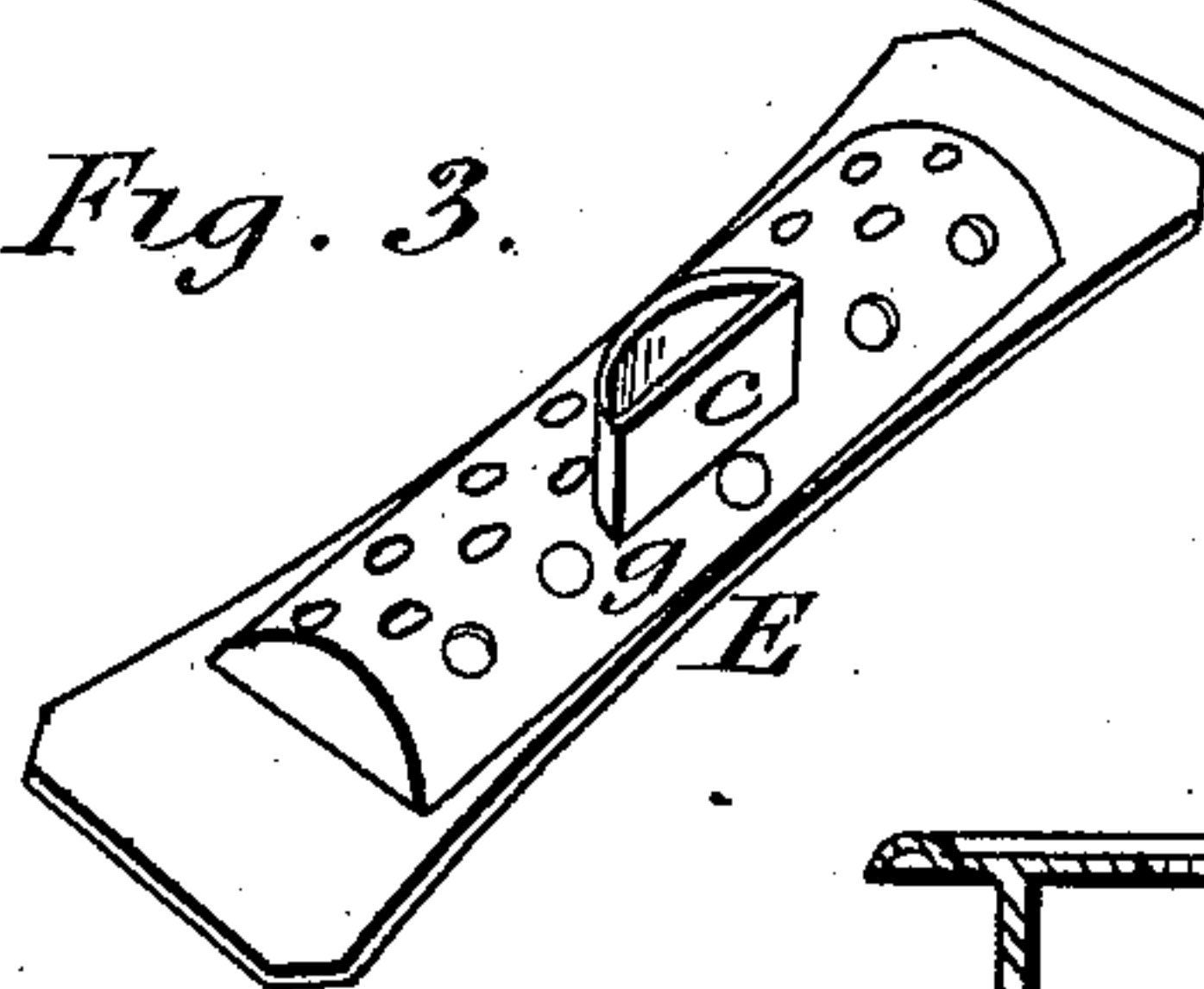
No. 95,429.

Patented Oct. 5, 1869.

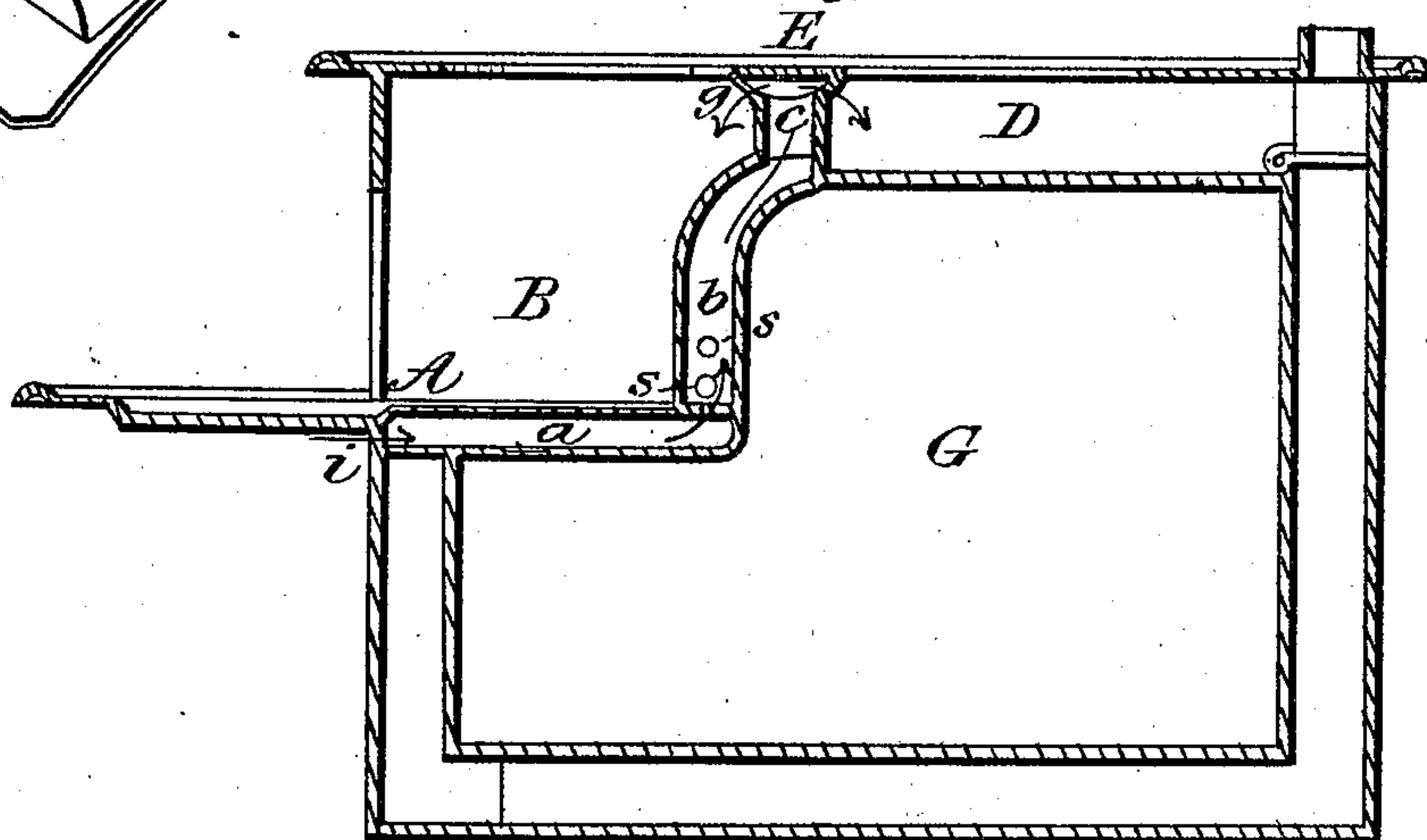
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



Witnesses:  
R. T. Campbell  
J. C. Campbell.

Inventor:  
B. F. Clement  
by  
Mason, Fenwick & Lawrence



# United States Patent Office.

BENJIMAN F. CLEMENT, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CHARLES H. BUCK  
AND WILEY S. WRIGHT, OF SAME PLACE.

*Letters Patent No. 95,429, dated October 5, 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, BENJIMAN F. CLEMENT, of St. Louis, in the county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Cook-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective sectional view of the improved cook-stove.

Figure 2 is a section, taken centrally through the stove from front to rear.

Figure 3 is a perspective view of the removable perforated bridge, turned bottom upward.

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

The object of this invention is to improve cooking-stoves by introducing highly-heated air into the fire-chambers through a hollow bridge, which is supported wholly or in part by, and forms part of the top plate of the stove, and which directs the air downwardly upon the flame, when said air is heated by conducting it through flues which separate the ash-pit and the fire-chamber from the oven.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawings—

A represents the ash-pit of the stove, above which is the fire-chamber B, separated from the ash-pit by a fender in the usual well-known manner.

D is the fire-flue, which is arranged in a horizontal plane between the top plate of the stove and the top plate of the oven.

From this flue the products can be conducted directly into the escape-flue, or they may be carried down a flue at the back of the oven, to the bottom thereof, thence to the front of the stove through a central flue beneath the oven, thence back through side flues to and out of the escape-flue.

The bridge E, which separates the front boiler-holes from the back boiler-holes, and which constitutes part of the top plate of the stove, has an oblong chamber, *g*, constructed on its bottom side, extending its entire length, from which chamber, *g*, heated air is allowed to escape downwardly in jets or streams through fine perforations, as indicated by the arrows in figs. 1 and 2.

In fig. 3 this perforated and chambered bridge E is clearly shown.

The chamber in bridge E communicates with a hot-air space, *b*, which is formed between the back

wall of the fire-chamber B and a portion of the front wall of the oven G, as clearly shown in figs. 1 and 2.

The chamber *b* communicates at its bottom with a horizontal flue-space, *a*, which is formed between the hearth-plate at the bottom of the ash-pit A and the oven-wall, as shown.

This space *a* communicates with the open air beneath the front extended portion of the hearth-plate by means of perforations *i*, which may be provided with a damper for regulating the influx of air.

It will be seen from the above description that I combine a hollow bridge, E, with the feature of conducting air through spaces formed between the ash-pit and fire-chamber and the oven.

The air which enters the space *a* is subjected to considerable heat radiated downwardly from the coals in the fire-chamber, and from this space *a* the air rises into the space *b*, where it is also subjected to considerable heat.

From this back space *b*, the highly-heated air rises into the hollow chamber formed beneath the bridge E, and escapes downwardly into the fire-chamber, and into the fire-flue leading therefrom.

It will also be seen that the heated air which is conducted into the bridge E, serves two very important purposes, to wit, it serves as a partial non-conductor of heat between the fire-chamber and the oven, and thus modifies the heat in the oven, and it also prevents the plates between the oven and fire-chamber from being rapidly burned out.

I am aware that James R. Hyde, in his patent of November 10, 1857, shows a stove having the air-passages, *a* and *b*, with perforations leading from the top of the passage *b* directly into the fire-chamber, and this I do not claim broadly.

I am also aware that Samuel Pierce, in his patent of November 17, 1863, and also David Stuart, in his patent of April 12, 1859, show a hollow bridge arranged over the fire-chambers of their stoves for introducing jets of air downwardly into the fire-chambers, and this feature, when considered alone, I do not claim.

Having described my invention,

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

The combination of a hollow perforated bridge, E, with the two passages, *a* and *b*, arranged, with respect to the oven G, fire-chamber B, and ash-pit A, substantially as and for the purposes described.

Witnesses: BENJIMAN F. CLEMENT.

GEO. I. DODD,

P. P. ELLIS.