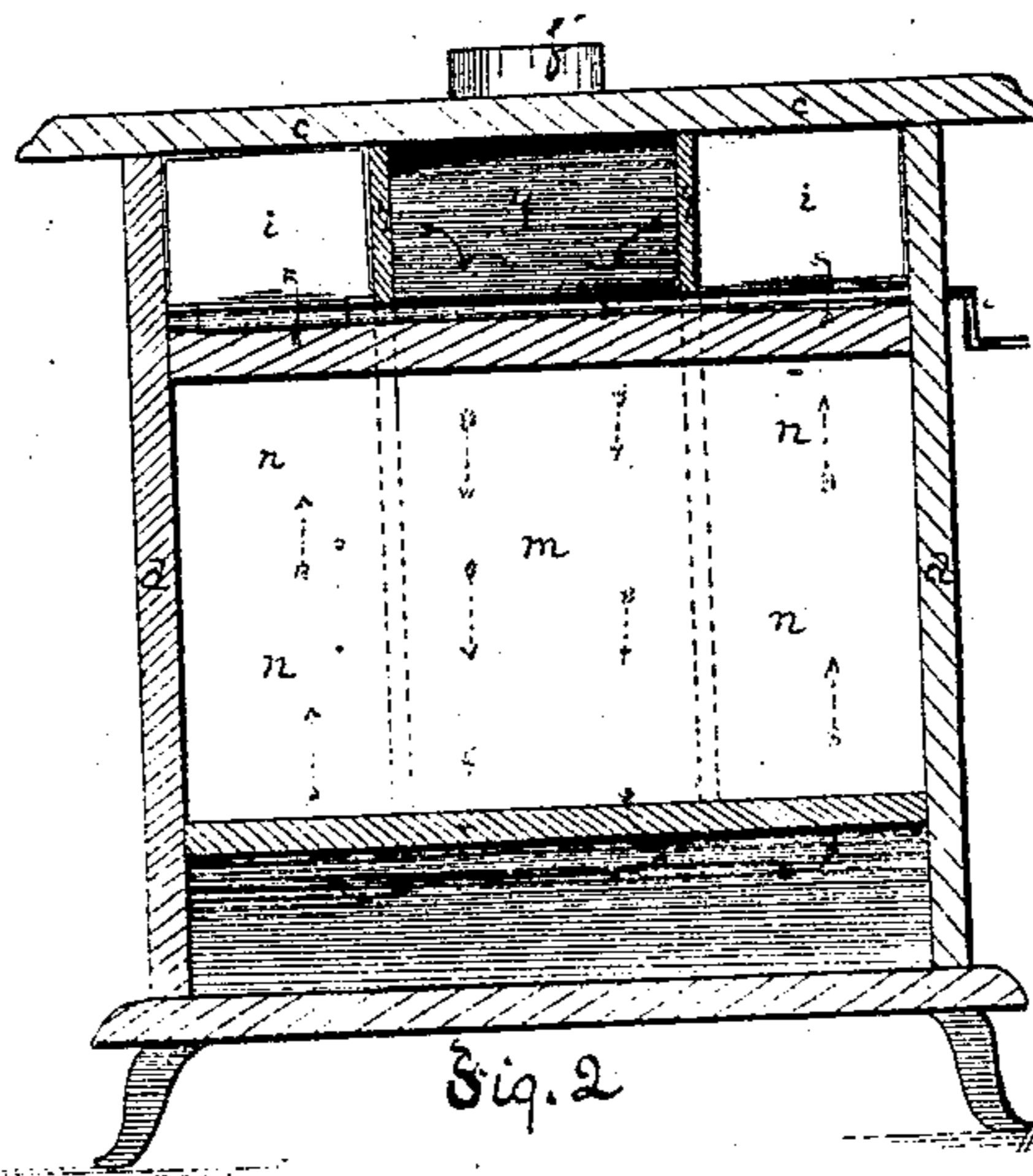
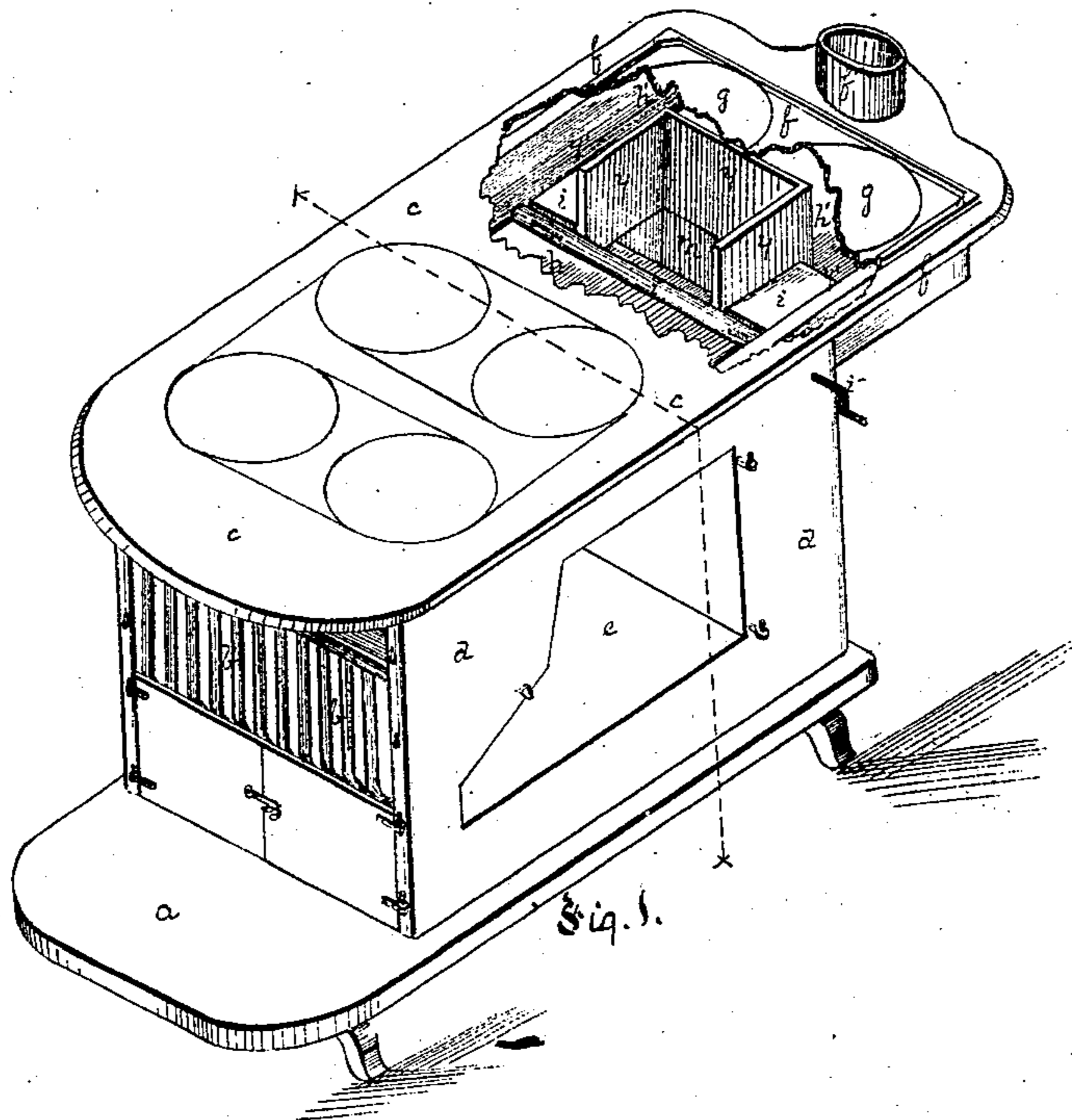


J. H. & T. S. MITCHELL.

Cooking Stove.

Patented Dec. 21, 1869.

No. 98,086.



Witnesses:

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# United States Patent Office.

JAMES H. MITCHELL AND THOMAS S. MITCHELL, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 98,086, dated December 21, 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 we, JAMES H. MITCHELL and THOMAS S. MITCHELL, of the city of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Cooking-Stoves; and we do hereby declare the following to be 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 perspective view of a stove, with a portion of the top plate removed, so as to illustrate our improvement, and

Figure 2 is a cross-section through the line *x x*, fig. 1, the partitions of the diving-flues being represented by dotted lines.

Like letters of reference indicate like parts of each.

The nature of our invention consists—

First, in arranging, in an extension-stove, two flues, for carrying off the smoke and other products of combustion, one at each side, instead of a single flue in the middle of the stove, as heretofore, so as to bring as much of the heat as possible under the rear holes of the extension; and

Second, in so arranging the dampers of such side flues, that for the purpose of heating the oven, the products of combustion will be caused to descend a central diving-flue, and return by vertical side flues, and thereby be discharged into the smoke or heating-chamber of the extension, under, or at such point that they must pass under the side holes of the extension.

To enable others skilled in the art to make and use our improvement, we will proceed to describe its construction and mode of operation.

The drawing shows a cooking-stove, having a hearth, *a*, grate, *b*, top plate, *c*, side plates, *d*, and oven, *e*, all of the usual or any known construction.

For the purpose of getting a stove of greater capacity, without enlarging the grate or fire-space, such stoves have been made with an extension, *f*, in which were made holes, *g*, for cooking or heating-purposes.

The diving-flues, by which heat is conveyed to the rear side and bottom of the oven, are placed vertically in front of such extension.

The heating-chamber *h*, in front of such diving-flues, has heretofore been connected with the heating-chamber *h'* of the extension, by a central flue, which was opened and closed by a damper, placed in front of it, or on the side next to the chamber *h*. The upper openings of the side diving-flues were enclosed on all sides, except the front, by a close partition; then, when the damper of the central flue was open, the smoke and other products of combustion passed through the

central flue, from the chamber *h* to the chamber *h'*, and out at the pipe-hole *f'*, so that a cooking-utensil, placed in either of the holes *g*, would be heated but slowly. If, on the other hand, such damper be closed, the smoke passes down the side diving-flues and out at the central flue, with like effect as before.

The object of our invention is to bring the products of combustion under the holes *g*, whether the diving-flues be used or not.

For this purpose we enclose the upper end of the central diving-flue, *m*, by a partition, *y*, on its rear and sides, leaving it open in front, into the chamber *h*.

The chambers *h* and *h'*, we connect with each other, by flues, *y' y'*, passing over the upper open ends of the side diving-flues *n* and *n*, and arrange a double or two single dampers, *i* and *i*, on the front side of the upper end of such flues, or on the side next the chamber *h*, which dampers we operate by a damper-rod, *i'*.

Then, when the dampers *i* are open, the products of combustion pass through the horizontal side flues, and enter the chamber *h'*, directly under the holes *g*, so as there to be most perfectly utilized for heating or cooking-purposes; and when, for heating the oven, the dampers *i* are closed, the smoke, &c., passes down the central diving-flue *m*, up the vertical side flues *n* and *n*, and into the chamber *h'*, under the holes *g*, with like effect as before described.

In the use of the horizontal side flues, connecting the chambers *h* and *h'*, we do not limit ourselves to the exact arrangement shown, but include a modification, which secures the same result when the dampers are open.

In this modification we enclose the upper end of the central flue *m* on all sides, except the rear, or that toward the chamber *h'*, and arrange the dampers *i* on the same side of the vertical flues *n*, that is to say, in the end of the side horizontal flues next to the chamber *h'*. Then, when the dampers are open, the smoke, &c., enters the chamber *h'*, under the holes *g*, as before described, though, when they are closed, the operation of the diving-flues will be the same as in the construction of stoves heretofore used, that is, the smoke, &c., will pass down the side, and out through the central vertical or diving-flues.

The particular advantage is, as already set forth, in the increased facility with which cooking-utensils can be heated in the holes *g*.

There is also the further advantage of a better draught, and a more effectual application of heat to the oven.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In an extension-top stove, the arrangement of

horizontal side flues, leading from the chamber *h* to the chamber *h'*, with dampers *i* at either end of such chambers, substantially as and for the purposes set forth.

2. In an extension-top stove, the arrangement of horizontal and diving-flues and dampers, such, that whether the dampers be opened or closed, the smoke and other products of combustion will enter the chamber *h'*, of the extension, at or near its sides, and under the holes *g*, substantially as described.

In testimony whereof, we, the said JAMES H. MITCHELL and THOMAS S. MITCHELL, have hereunto set our hands.

JAMES H. MITCHELL.  
THOMAS S. MITCHELL.

Witnesses:

JOHN GLENN,  
G. H. CHRISTY.