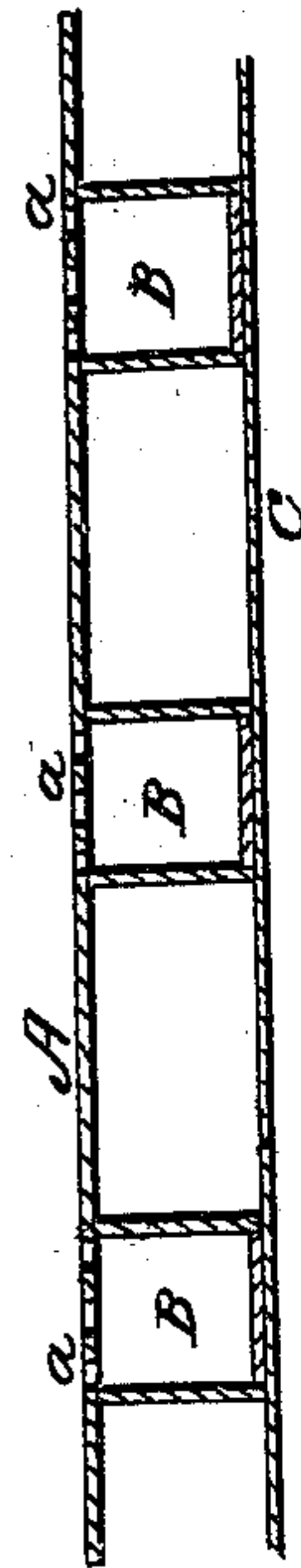
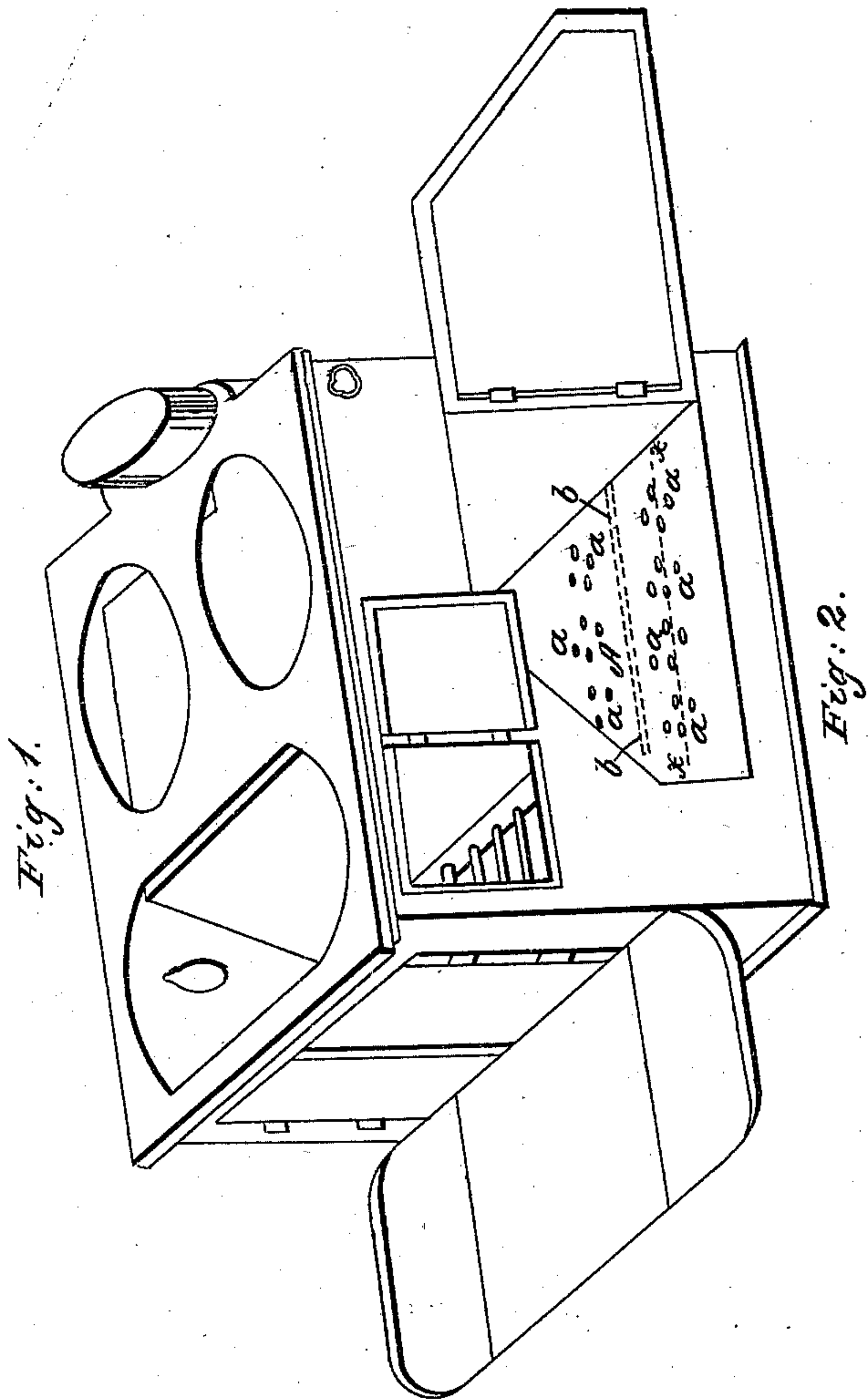


C. J. WOOLSON.

Cooking Stove.

No. 4,184.

Patented Sept. 9, 1845.



# UNITED STATES PATENT OFFICE.

CHARLES J. WOOLSON, OF CLEVELAND, OHIO.

## COOKING-STOVE.

Specification of Letters Patent No. 4,184, dated September 9, 1845.

*To all whom it may concern:*

Be it known that I, C. J. WOOLSON, of Cleveland, in the county of Cuyahoga, in the State of Ohio, have invented a new and  
5 useful Improvement in the Manner of Communicating Heat to the Ovens of Cooking-Stoves; and I do hereby declare that the following is a full and exact description thereof.

10 In the lower oven flues, I place a number of boxes, or tubes, which extend down from the bottom plate of the oven so as to be in contact, or nearly so with the bottom plate of the stove. These tubes may be closed at  
15 their lower ends, or they may be left open and brought into contact with the bottom plate, but they are to communicate at their upper ends with the oven through a number of small holes in the bottom plate  
20 thereof. The draft from the fire as it traverses back and forth under the oven, before it reaches the exit pipe, heats these tubes, or boxes and this heat is conveyed to the bottom plate of the oven and to the air contained within these tubes, which heated air  
25 is conducted into the oven, and is replaced by a fresh portion.

In the accompanying drawing Figure 1 is a perspective view of a stove, showing the  
30 bottom oven plate A as perforated with a number of small holes *a a*. Fig. 2 is a section through the bottom flue in the line *x, x*, of Fig. 1.

B, B, are tubes, or boxes which extend  
35 down from the lower oven plate A to the bottom stove plate C; these tubes may be cast in one piece with the plate A, but in this case they should be as thin as possible; or they may be made of sheet iron and be  
40 attached to the lower oven plate after it is cast; and this making them of sheet metal is to be preferred; their thinness being a matter of importance, as it is intended that they should be readily heated by the passing current of the draft, and that this heat  
45 should be communicated by them to the air

contained within them, they operating in fact as air heaters, and not as heaters of the oven plate. They may when close to the lower oven plate, be left open at their lower  
50 ends, there being little or no tendency to the entrance of the draft into the oven through them.

The object of this invention, is to have the tubes thinner than the oven plate, in  
55 order to heat the air in the oven, by means of the tubes, sooner, and with less fuel, than by means of the oven plate. When they are cut in one piece with the oven plate, there should be adapted to each of them a per-  
60 forated cover, having any desired number of small holes through it; when made of sheet-iron the holes *a a* will be cast in the plate A. The double dotted lines *b b* may show the place of one of the partitions by  
65 which the draft is directed through the lower oven flue.

Having thus fully described the nature of my improvement in the manner of communicating heat to the ovens of cooking  
70 stoves, I do hereby declare that I do not make claim to any improvement in the general construction of such stoves, my improvement in the lower oven flue being  
75 equally applicable to stoves in a variety of forms; but

What I do claim as my invention and desire to secure by Letters Patent, is—

The forming of the bottom plate of the oven with a number of tubes, or boxes usually of sheet iron or other substances thinner than the bottom plate, that descend from it through the lower flue space; the same being effected under an arrangement  
80 of their respective parts substantially the same with that herein described, and for the purpose set forth.

C. J. WOOLSON.

Witnesses:

THOS. P. JONES,  
GUY C. HUMPHRIES.