

J. BIEDER.  
BAKERS' OVEN.

No. 169,404.

Patented Nov. 2, 1875.

Fig. 1.

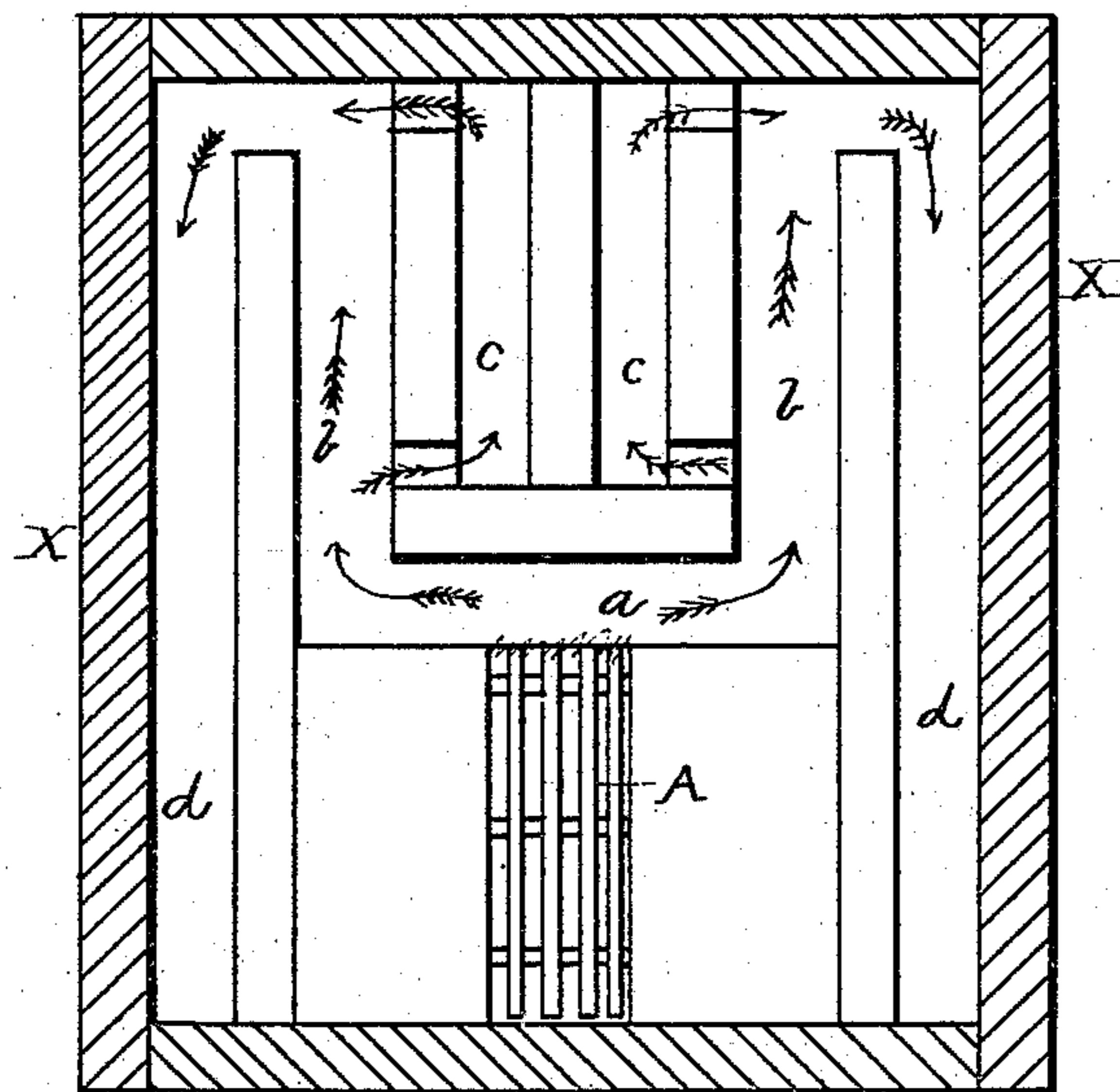
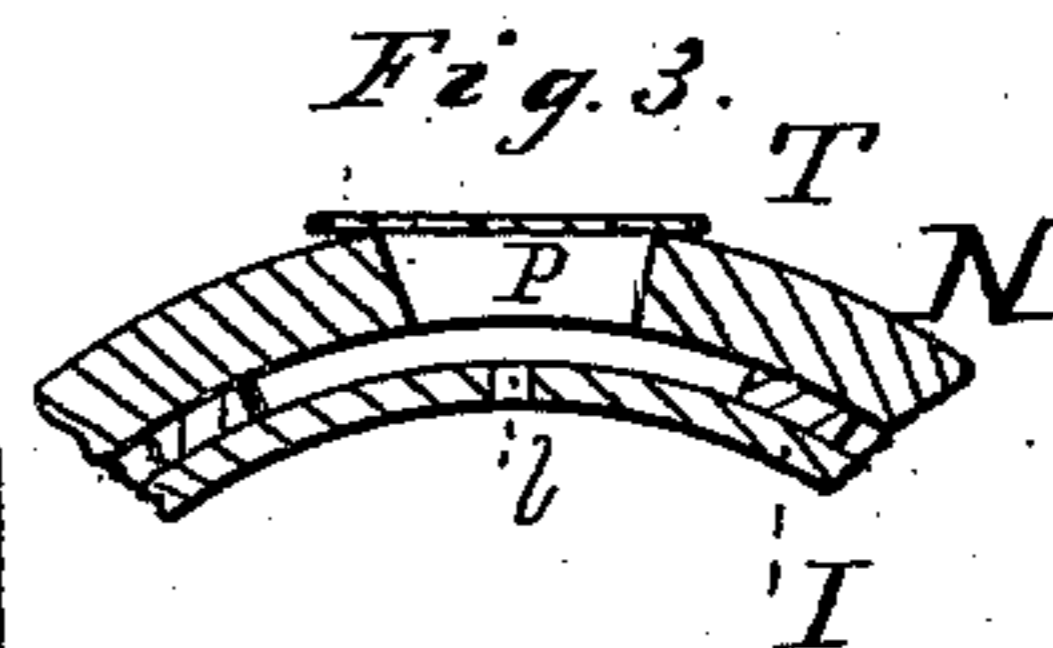
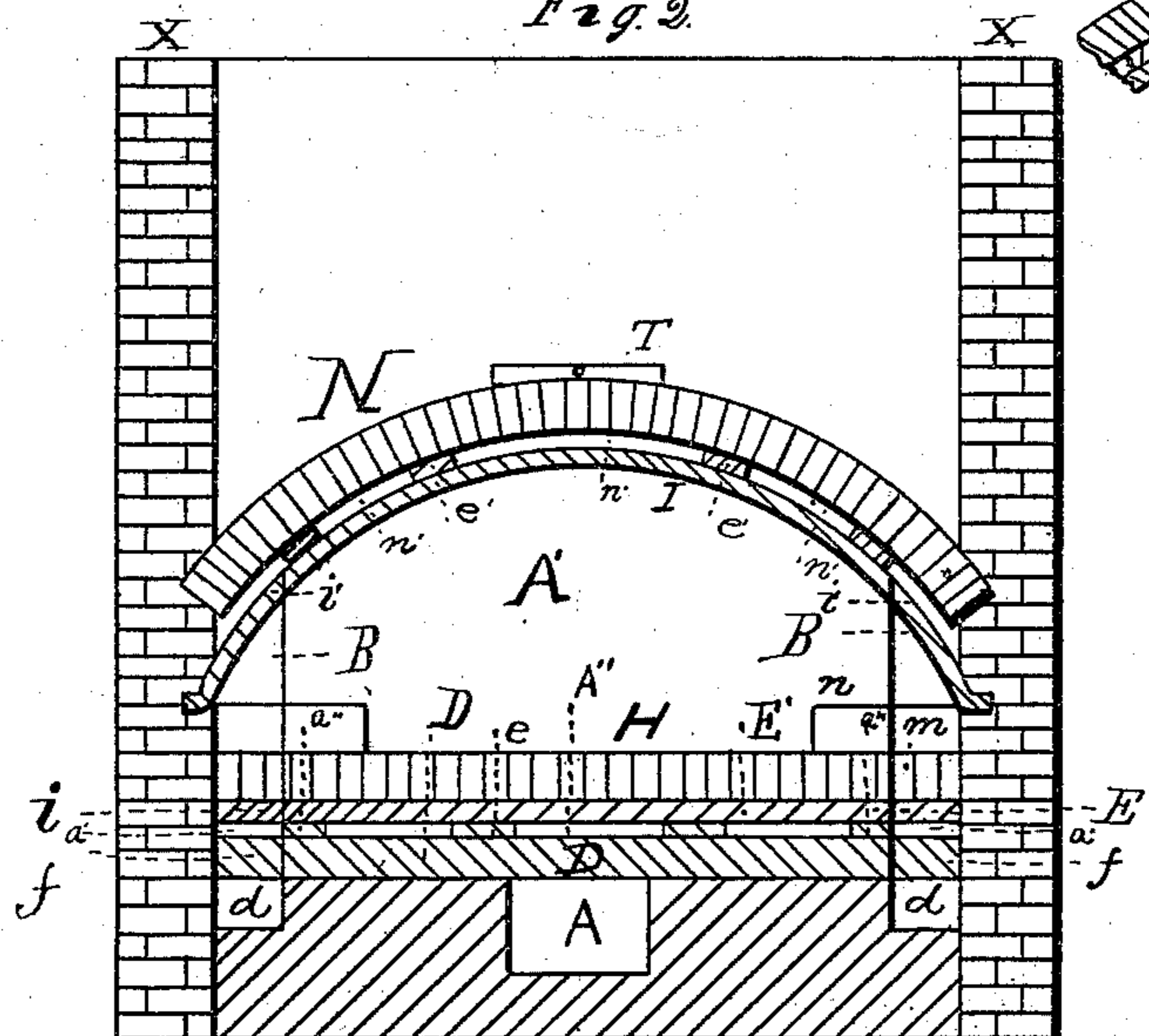


Fig. 2.



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Chas. McGill  
W. Hervey

Inventor:  
Jacob Bieder  
by his attys.  
Cox & Cox

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Fig. 4.

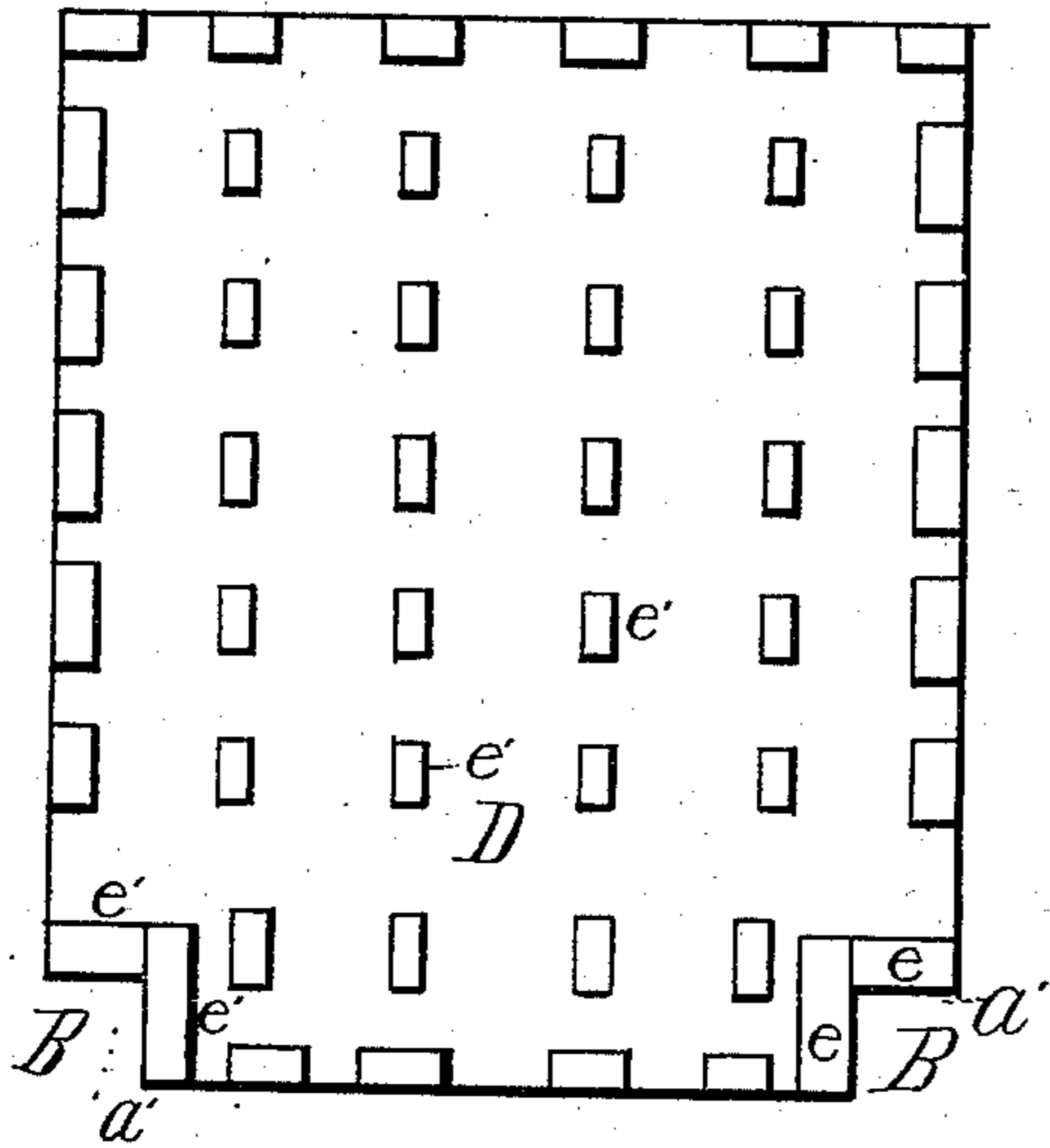


Fig. 5.

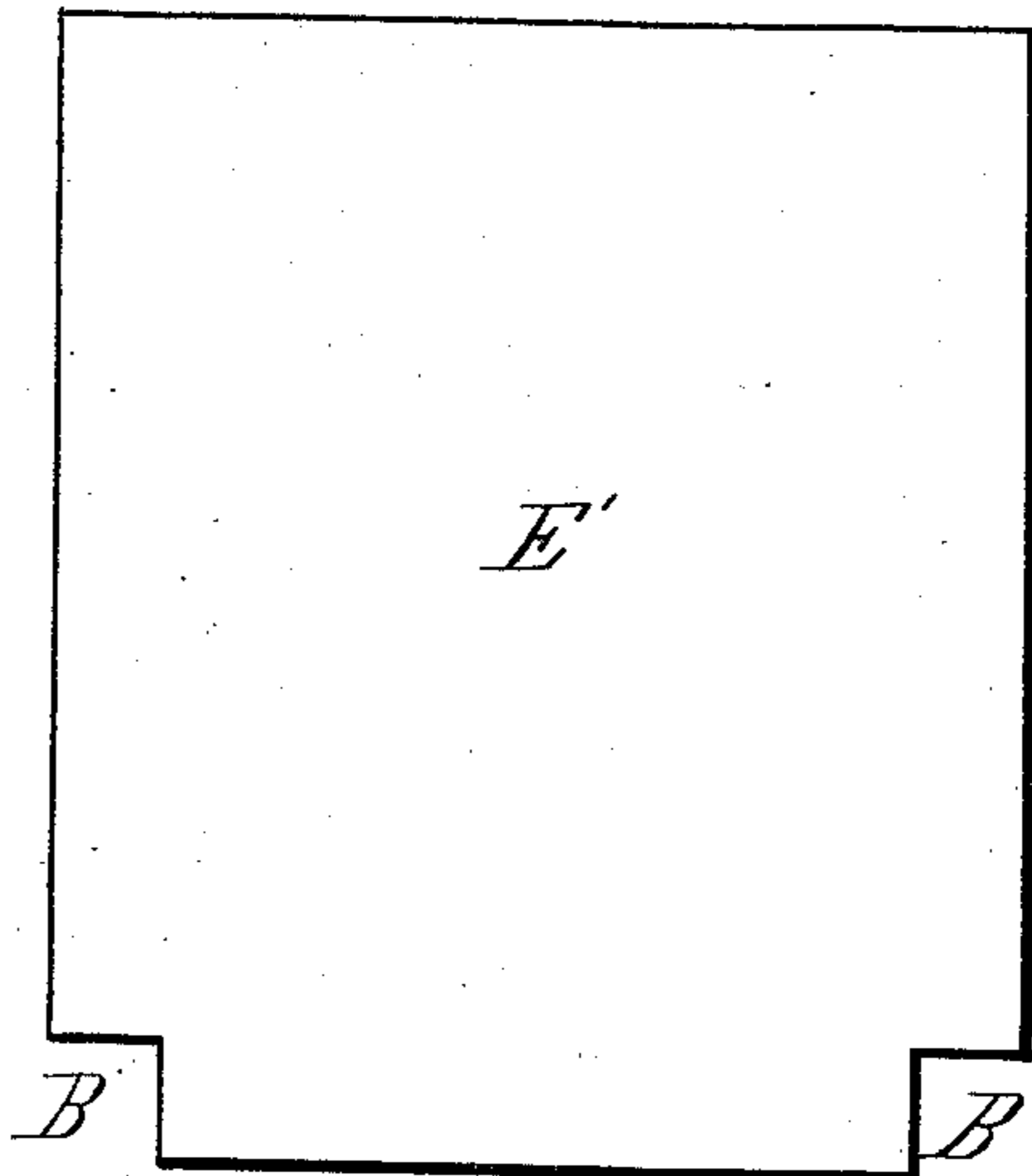


Fig. 6.

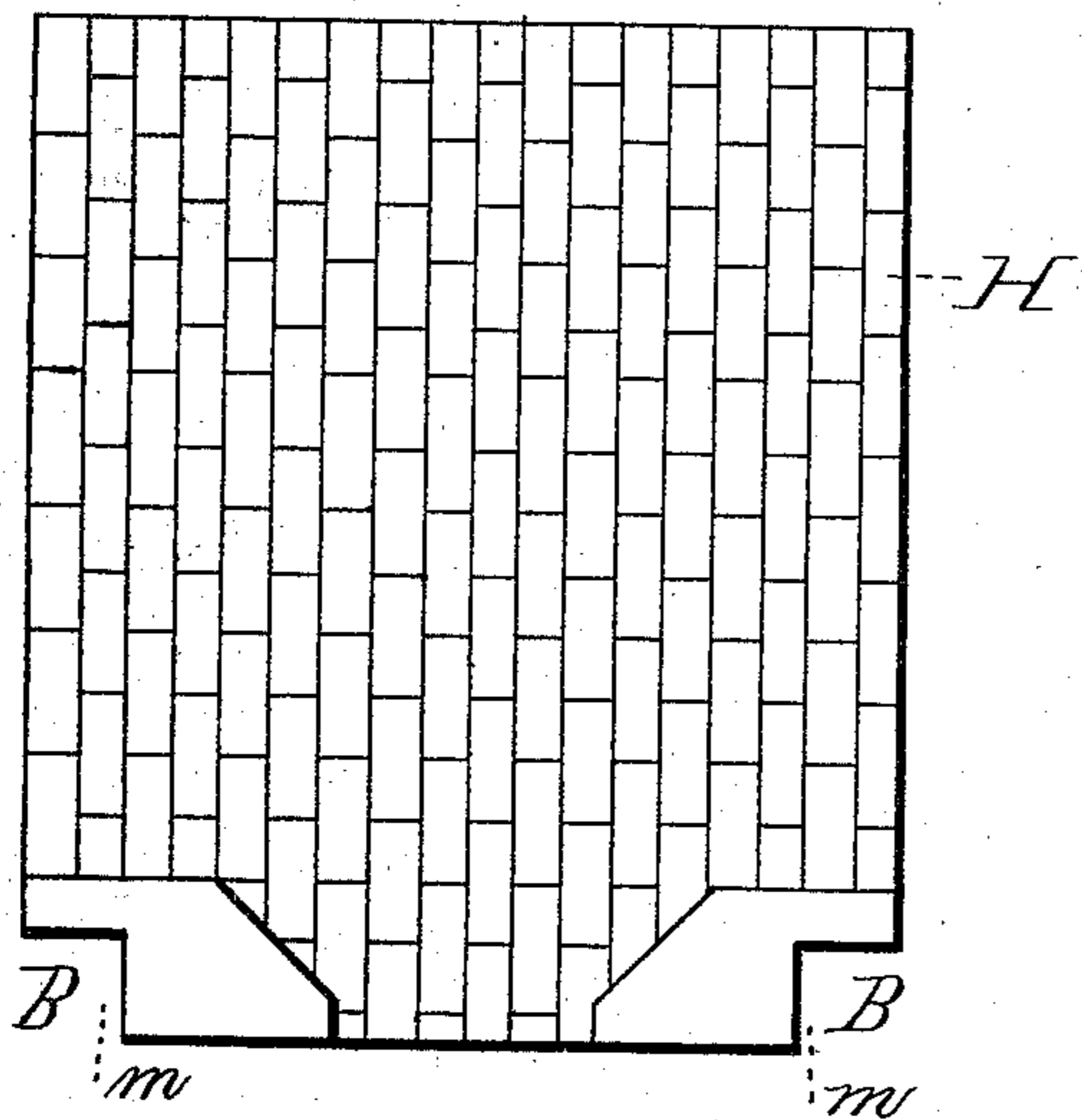
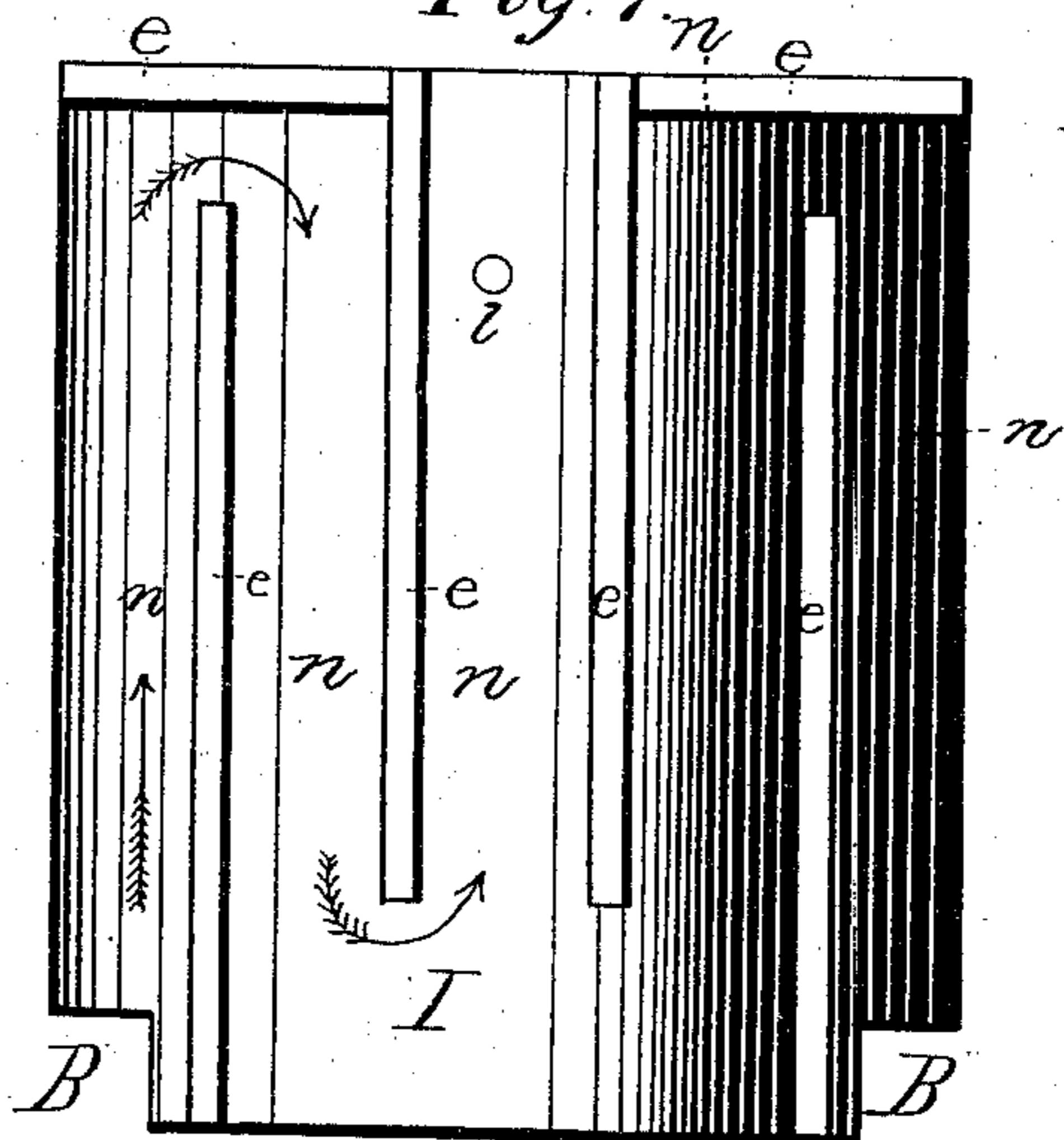


Fig. 7.



WITNESSES -  
*Chas. A. Gill*  
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INVENTOR =  
*Jacob Bieder*  
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# UNITED STATES PATENT OFFICE.

JACOB BIEDER, OF ASHTABULA, OHIO.

## IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. 169,404, dated November 2, 1875; application filed August 26, 1875.

*To all whom it may concern:*

Be it known that I, JACOB BIEDER, of Ash-tabula, Ohio, have invented new and useful Improvements in Bakers' Ovens, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to devices that have been classed as bakers' ovens; and consists in the arrangement of parts, as hereinafter specified.

The object of the invention is to provide a cheap, economical, and effective device for baking, and one in which the oven is heated uniformly and quickly, and always ready for use.

Figure 1 is a top view of the furnace. Fig. 2 is a view of the interior, partly in section. Fig. 3 is a sectional view of the register.

In the accompanying drawing, A represents the furnace connected with the flue *a*, which connects with the flues *b*, leading into the flues *c* and *d*, so that the products of combustion follow the courses indicated by the arrows in Fig. 1. Above and opposite the front end of the flues *d* the ends of the several plates are recessed at corresponding corners, as hereinafter set forth, forming a vertical flue, B, at each of the front corners of the device. Through the flues B the products of combustion ascend until they reach the roof N, which not being recessed the said products are distributed over the plate I, which is provided with the cleats *e*, which form with the roof and plate I channels, through which the products of combustion are led over the upper surface of the plate I to the exit-aperture *l*. Immediately above the furnace A is placed the tile-plate or oven-floor D, having its lower surface in close relation to the upper surfaces of the walls of the furnace and the horizontal flues, its edges impinging in an air-tight manner against the side and end surfaces of the walls X, save at the two front corners of the plate, where it is provided with the recesses *a'*. Upon the upper surface of the plate D are placed the tiles *e'*, as shown, the recesses *a'* being bordered with tiles, so as to prevent the ingress of smoke. Above the plate D is placed the plate E', its edges in air-tight relation to the walls X, its lower sur-

face resting upon the upper surfaces of the tiles *e'*, and its two front corners recessed correspondingly to the floor D. Above and in contact with the plate E' is placed the brick floor H, having the corner-pieces *m* recessed, as shown, to correspond with the recesses in the plates below. The smoke-arch I is placed above the floor D, its side edges entering the wall X, so that the recesses in its lower front corners come in close and air-tight contact to the recesses *m*, the front and rear edges of the roof touching the walls also in an air-tight manner. The upper surface of the smoke-arch I is provided with the cleats *e*, upon which the smoke-tight roof N rests, forming the flues *n*, through which the smoke is led to the exit, as shown by the arrows in Fig. 7, a damper of proper construction being provided to open or close the exit P.

Thus it is clear that the products of combustion pass completely under the plate D; thence up through the flues B, and thence over the smoke-arch I, finally out of the exit P. This movement of the products of combustion thoroughly warms the device, which presents two spaces for cooking or baking, viz., above the tile-plate D and upon the hearth H. It is clear that the presence of the hearth H tends to retain and equalize the heat while the heating power of the products of combustion are thoroughly employed.

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

1. In a baker's oven, the combination of the lower horizontal flues *a b c d* with the vertical flues B and upper horizontal flues *n*, formed in the manner for the purpose specified.

2. The combination of the several separate plates D E, hearth H, and smoke-arch I, recessed at their corresponding corners, for the purposes shown and set forth.

In testimony that I claim the foregoing improvements in bakers' ovens, as above described, I have hereunto set my hand and seal this 9th day of August, A. D. 1875.

JACOB BIEDER. [L. S.]

Witnesses:

OMAR GILLETTE,  
W. S. BURNHAM.