

S. WOOD.

STOVE.

No. 171,640.

Patented Dec. 28, 1875.

Fig. 1.

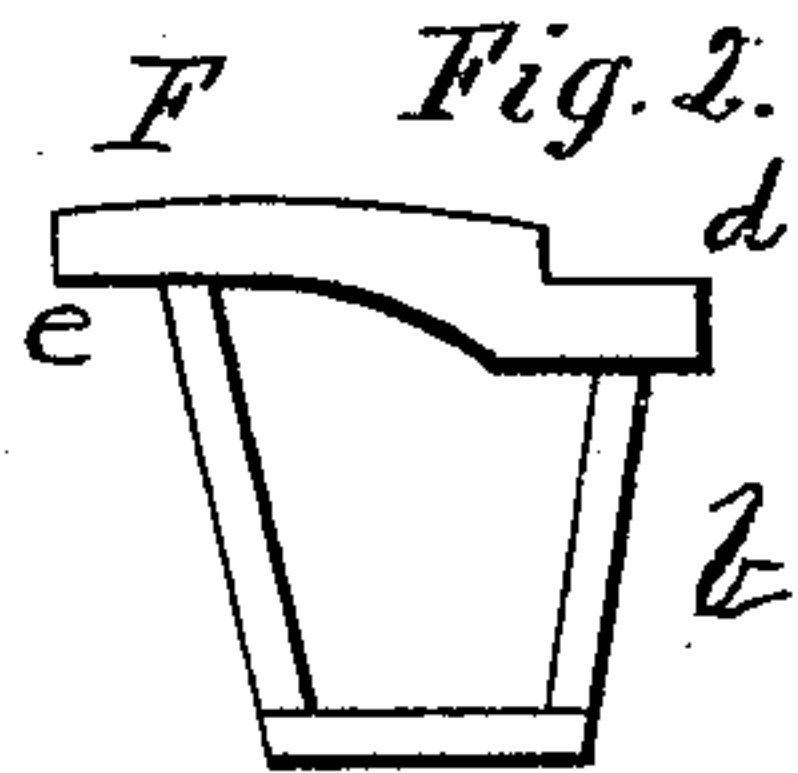
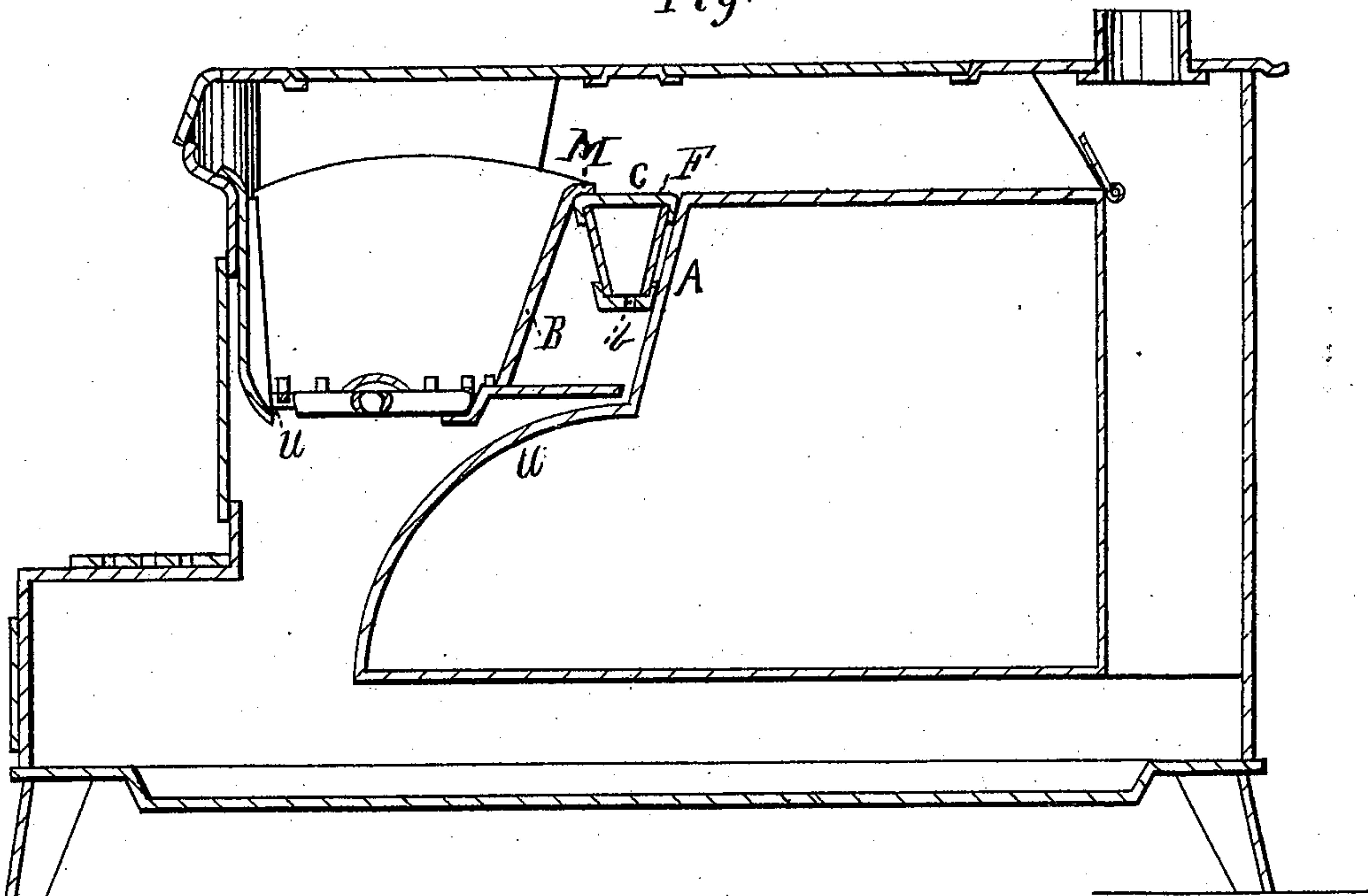


Fig. 3.

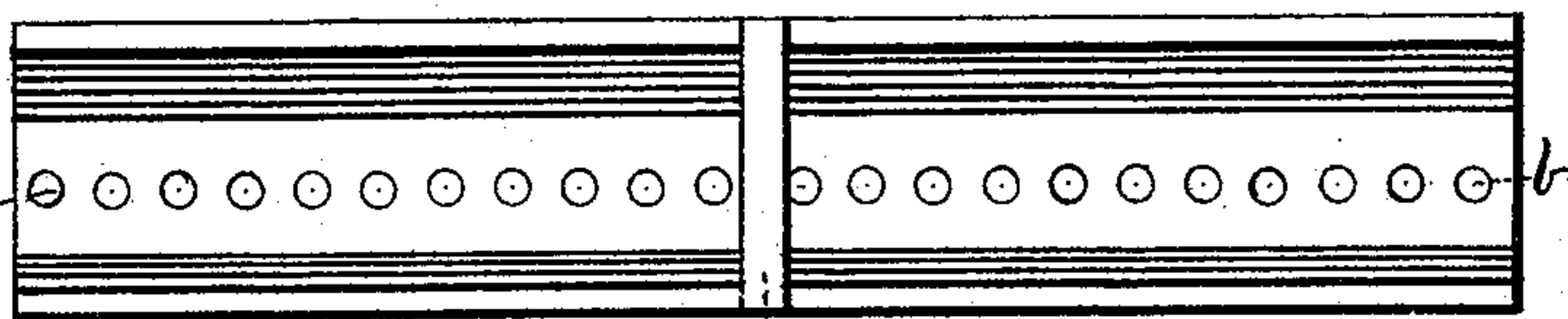


Fig. 4.

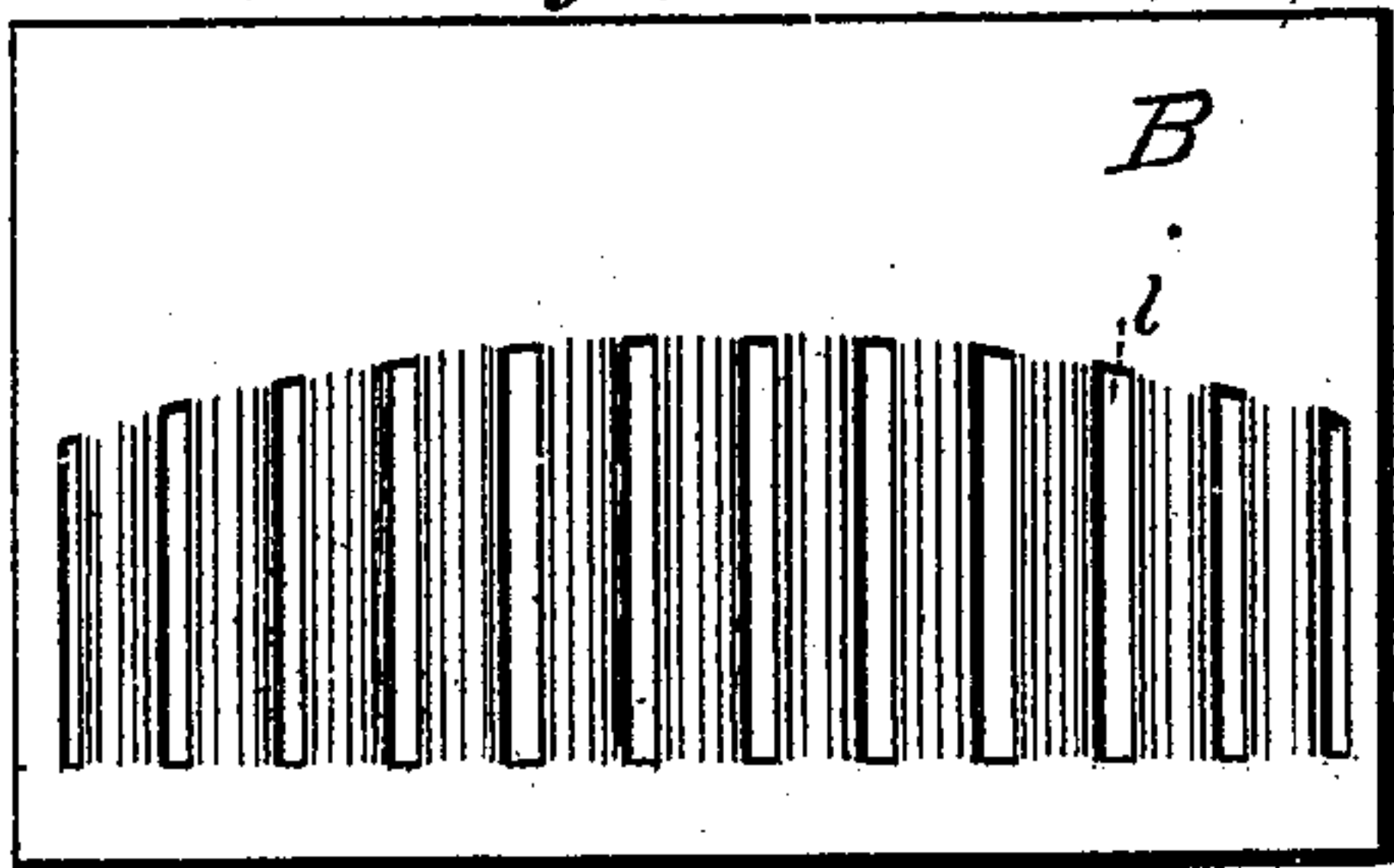


Fig. 5.



Fig. 6.

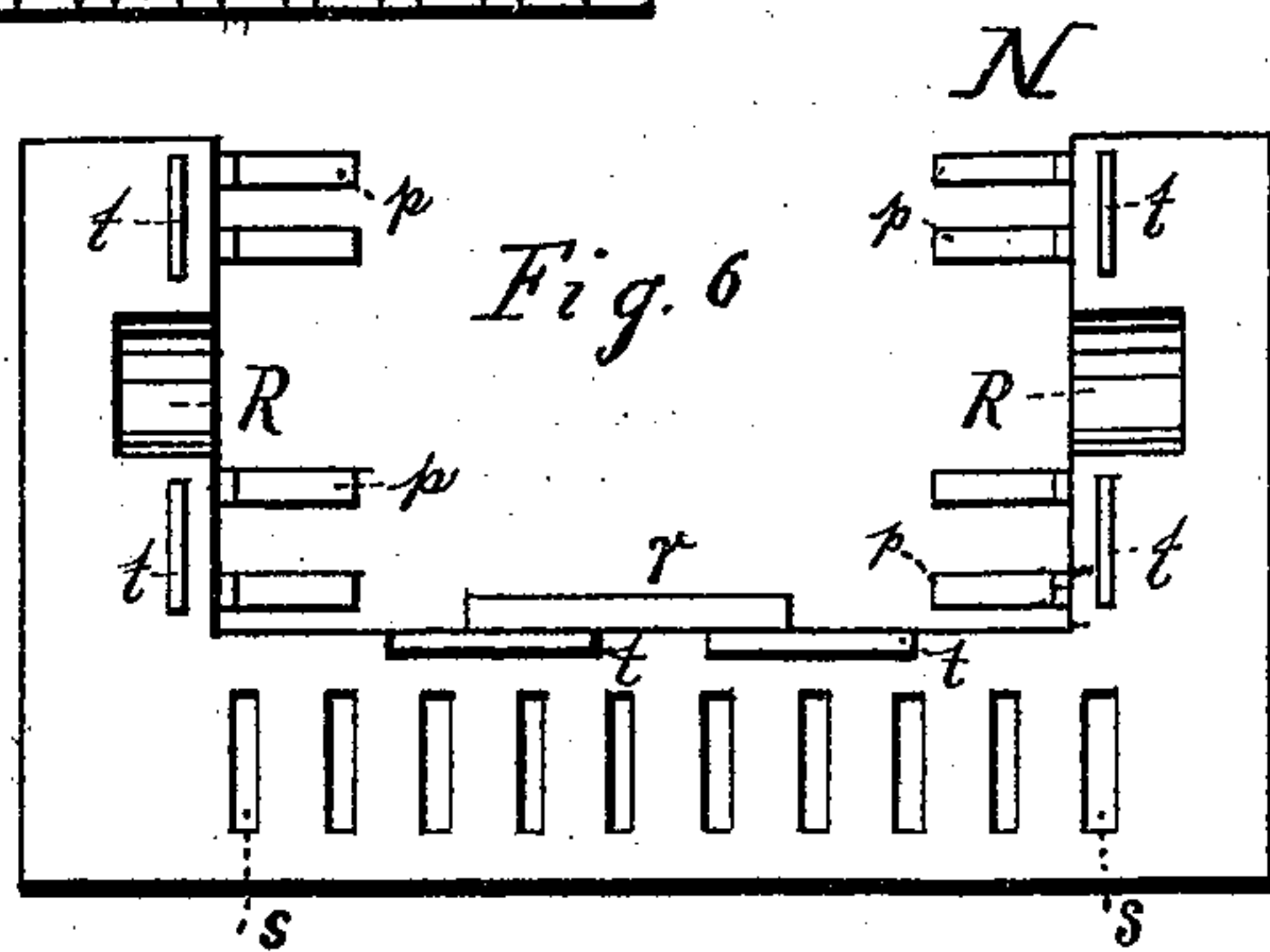
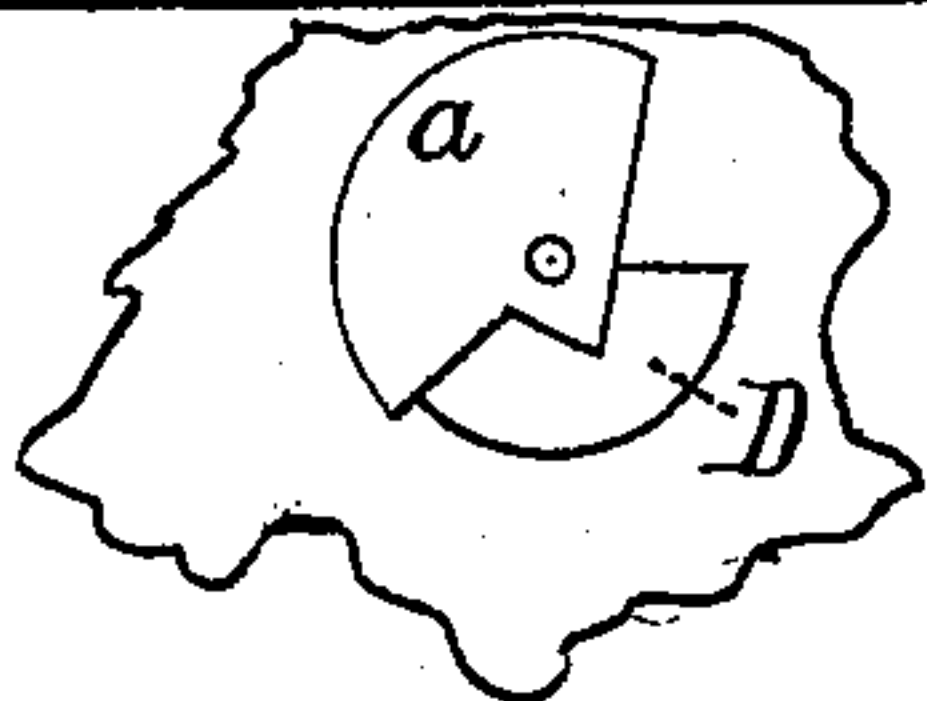


Fig. 7.



Witnesses.  
Chas. Gill  
Fred. R. Goodridge

Inventor.  
Samuel Wood  
by his Attys.  
Cox & Cox.

# UNITED STATES PATENT OFFICE.

SAMUEL WOOD, OF QUINCY, ILLINOIS, ASSIGNOR TO EXCELSIOR STOVE-  
WORKS, OF SAME PLACE.

## IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **171,640**, dated December 28, 1875; application filed  
June 22, 1875.

*To all whom it may concern:*

Be it known that I, SAMUEL WOOD, of Quincy, Adams county, Illinois, have invented new and useful Improvements in Stoves, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to that class of devices known as cooking-stoves; and consists, first, in providing an air-chamber communicating with the external air, for the purpose of equalizing the temperature of the air in rear of the fire-back; second, in providing a slotted fire-plate, through which cinders passing may reach the ash-box by falling through a second series of slots in the grate-rest.

Figure 1 is a central longitudinal section of a device embodying the elements of the invention. Fig. 2 is an end view of the air-chamber. Fig. 3 is a top elevation of the air-chamber with top removed. Fig. 4 is a front elevation of the fire-back. Fig. 5 is a sectional view of fire-back. Fig. 6 is a top elevation of grate-rest. Fig. 7 is a side elevation of the registers.

In the accompanying drawings, A represents the upper part of the oven, between which and the fire-plate B in the back of the fire-pot is secured the air-chamber C, on brackets situated upon the inner surface of the sides of the stove. This air-chamber is arranged vertically in the stove, in such manner that its ends will open into the apertures D, which are provided with the registers *a*, for regulating the current of cool air. The trough or lower section of the air-chamber B is provided with the apertures *b*, for the purpose of distributing the cool air equally along the upper surface of the oven, and in rear of the fire-back. The covering F of the chamber C is provided with the recess *d*, for the purpose of resting the upper edges of the lining upon, and also with the ledge *e*, for holding the air-chamber more securely in position. The air-chamber C is divided into two compartments by the partition H. Immediately in the rear of fire-chamber, and in front of air-chamber, is placed the fire-back or fire-plate B, which is constructed by casting in one piece a plate having the shoulder M and elongated slots *i*. Between these slots are fashioned or otherwise the V-shaped bars *n*.

The slots *i* are provided to insure an equalized circulation of air in the fire-chamber.

The bars *n* are so constructed that their apices alone are exposed to the direct action of the heat, and consequently are much more durable than those heretofore used.

N represents the grate-rest, or frame which supports the grate and linings of the fire-chamber, and is clearly represented at Fig. 6. The frame N is so placed in relation to fire-plate B that the slots *s* are situated in the rear of plate B, in such position that ashes or cinders escaping through the slots *i* will fall through the slots *s* into the ash-pan, thereby preventing an accumulation of refuse matter between the plate B and oven A. R represents the bearings of the grate, the bars of which move between the ears *p*, and rest upon the ledge *r*.

The protuberances *t* on the grate-rest N serve as stops for the lining of the air-chamber, keeping the lower edges of same in proper position.

When the grate-rest N is in position its front edge will rest upon the ledges *u* of the front grate, and the rear edge upon the shoulder *w*, formed by the peculiar configuration of the front part of the oven.

It is obvious that these improvements may be adapted to any cooking-stove of ordinary construction with little inconvenience.

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

1. The air-chamber C, having the apertures *b*, partition H, and covering F, substantially as specified.

2. The fire-plate B, having the slots *i* and bars *n*, in combination with the air-chamber C, as described.

3. The combination of the air-chamber C, fire-plate B, and grate-rest N, as set forth.

In testimony that I claim the foregoing improvements in stoves, as above described, I have hereunto set my hand and seal this 11th day of June, 1875.

SAMUEL WOOD. [L. S.]

Witnesses:

BENJN. F. BERRIAN,  
EBENEZER B. BARKER.