

A. DEDERICK.  
Ranges.

No. 146,991.

Patented Feb. 3, 1874.

Fig. 1.

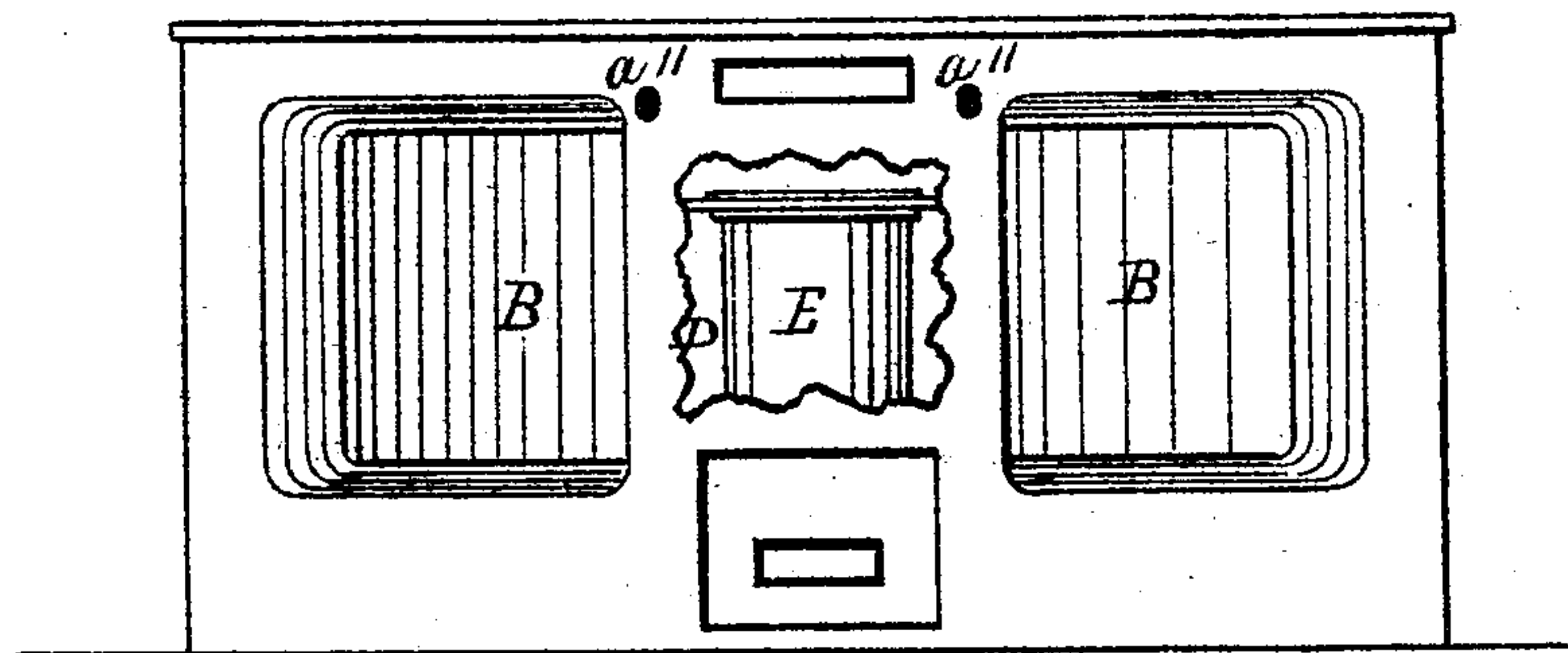


Fig. 2.

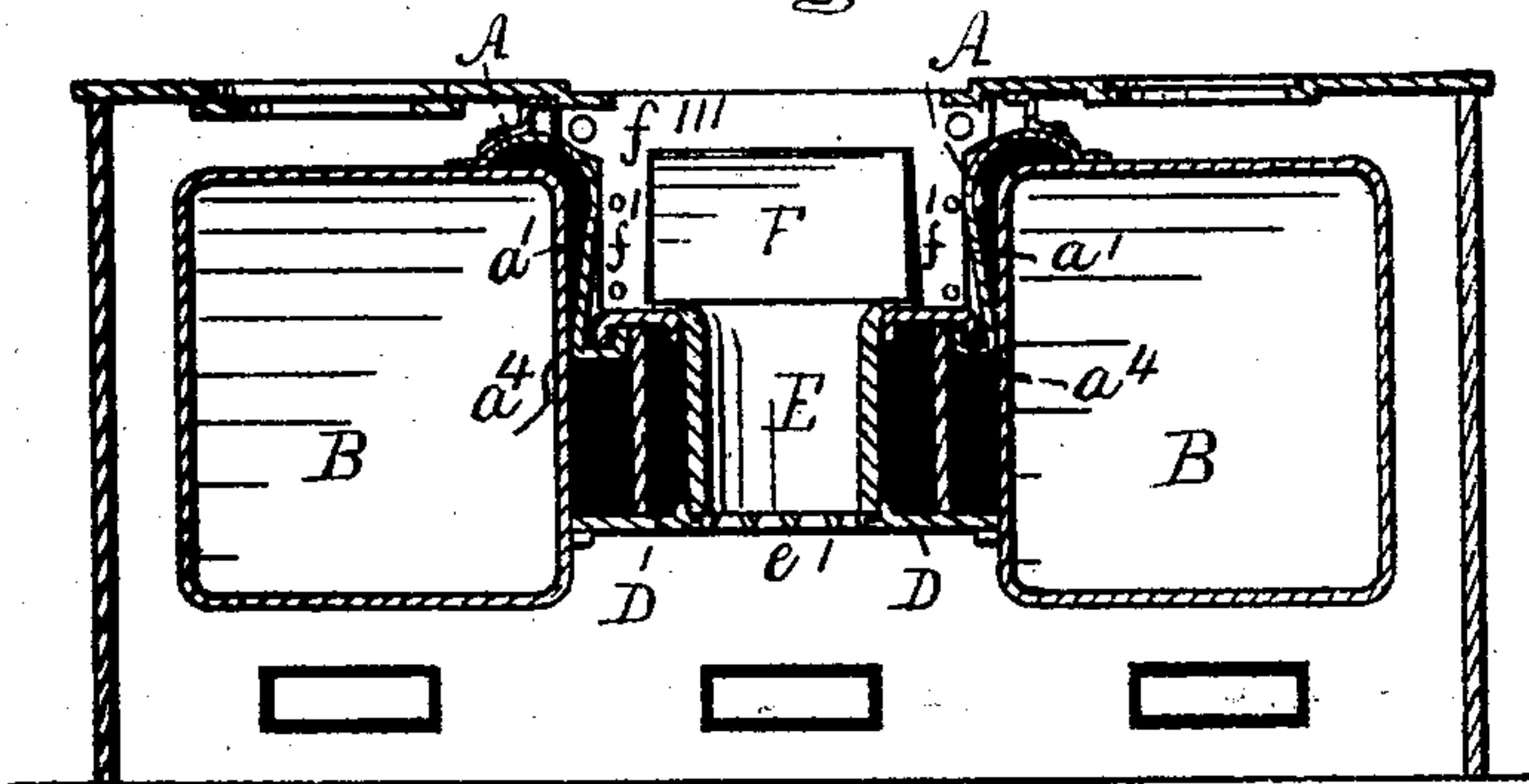


Fig. 3.

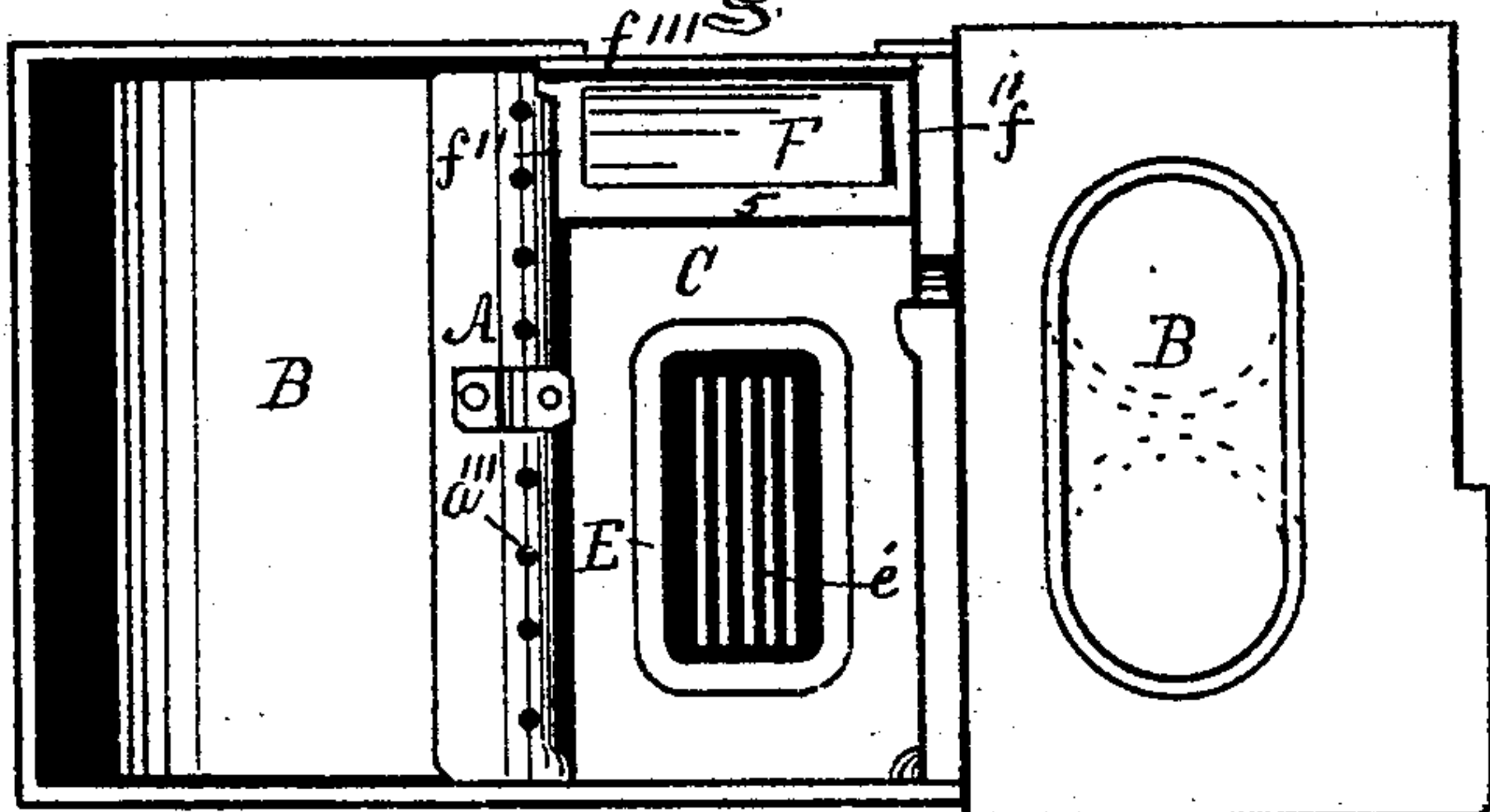


Fig. 4.

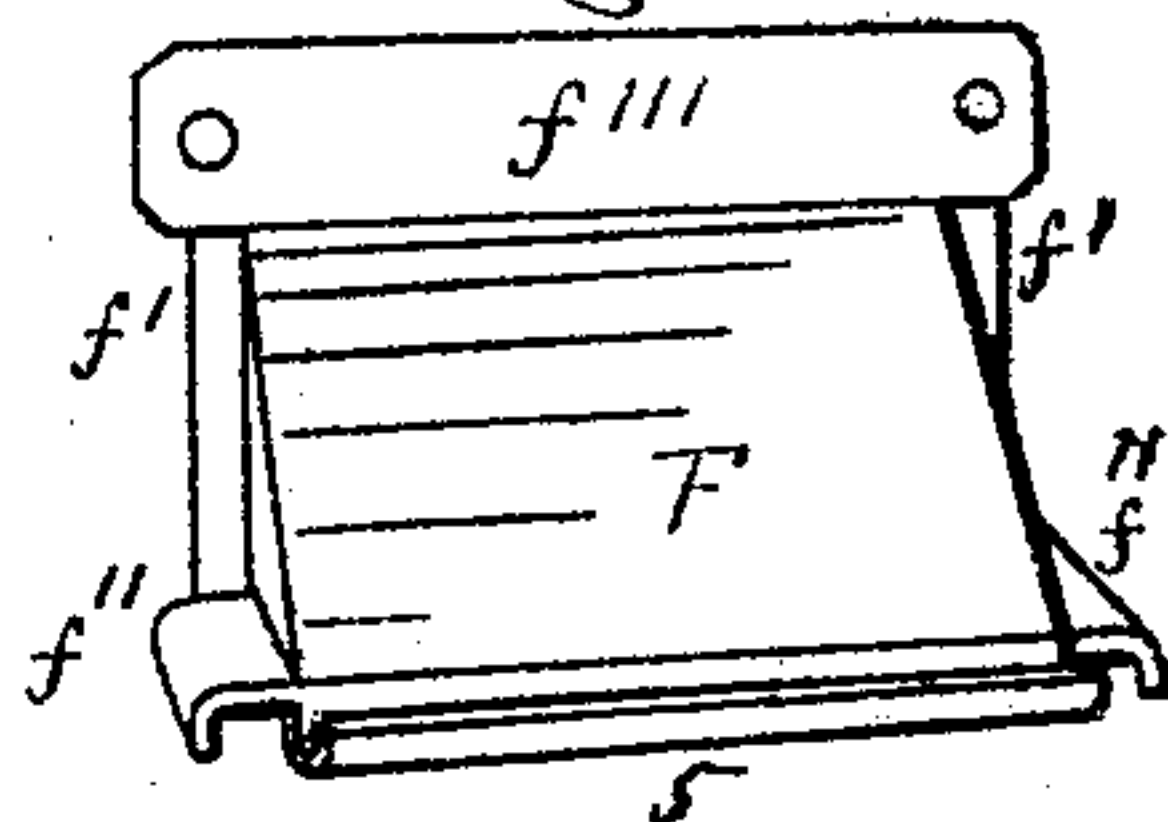


Fig. 5.

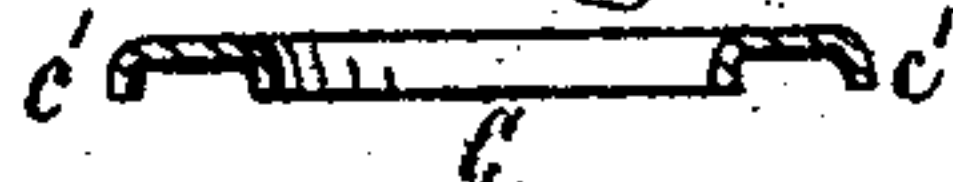


Fig. 6.

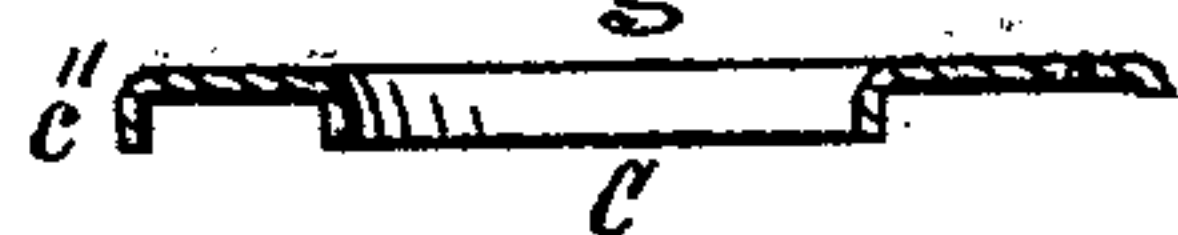
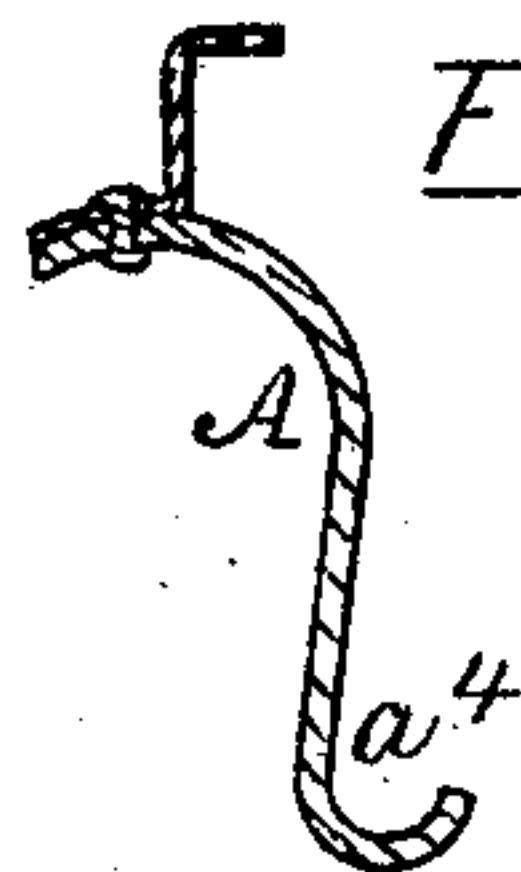


Fig. 7.



Witnesses:

Benj. Morrison.  
Wm. H. Morrison.

Inventor:

Alonzo Dederick



# UNITED STATES PATENT OFFICE.

ALONZO DEDERICK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
MEDICKE, DEDERICK & HARPER, OF SAME PLACE.

## IMPROVEMENT IN RANGES.

Specification forming part of Letters Patent No. **146,991**, dated February 3, 1874; application filed  
January 3, 1874.

*To all whom it may concern:*

Be it known that I, ALONZO DEDERICK, of the city of Philadelphia, in the State of Pennsylvania, have invented an Improvement in Ranges, of which the following is a specification:

The object of my invention is twofold: First, to better protect from excessive heat the upper corner and side of the oven next to the fuel-chamber and incandescent fuel in the fire-box; and, second, to afford facility in the application of the plates which separate the combustion-chamber from the air-heating chamber, by constructing and securing the respective plates, in relation to each other and to the oven or ovens and chambers, as will be hereinafter fully set forth and described.

Referring to the drawings, Figure 1 is a front elevation of a double-oven range having my invention applied. Fig. 2 is a vertical section, through the middle of the fire cylinder or box, of Fig. 1. Fig. 3 is a plan view of Fig. 1, having the greater portion of the top plate removed. Fig. 4 is a perspective view of the bonnet-plate, detached. Figs. 5 and 6 are transverse and longitudinal sections, respectively, of the top plate of the hot-air chamber; and Fig. 7 is a transverse section of the protecting-plate detached from the corner of one of the ovens.

The protecting-plate A extends along from one end to the other of the upper inner corner of the oven, and is curved transversely, so that when bolted down upon the latter, with its side edges in close contact with the top and inner side plate of the oven, so as to leave an air-space,  $a'$ , from end to end, between it and the rounded corner of the said oven, a small hole,  $a''$ , is made through the front plate of the range, which admits cool air into the space, and the said air escapes through a series of holes,  $a'''$ , into the fire-chamber, and thus prevents that part of the oven from becoming more highly heated than the other parts—a matter of great importance in equalizing the baking power of the four sides of the oven, whether the walls thereof be of cast-iron plates or of sheet-iron, and if of sheet-iron of still more importance in preventing that part over which the curved protecting-plate A is secured from becoming red-

hot, and consequently soon burned through. The lower edge of the plate A extends downward nearly half the depth of the oven, and has said edge curved upward, so as to form a round-bottomed trough,  $a^4$ , from end to end. If there be two ovens, B B, as in this instance, each has a protecting cap-piece, A, applied as just described, and protects all that part of each oven which would otherwise be exposed to the direct heat of the fire-chamber, above the horizontal plate C, which divides it from the air-heating chamber D below it. (See Figs. 1 and 2.) The horizontal plate C has a suitable hole near its middle, into which the fuel-box E fits and extends down to the grate  $e'$ , the flange around the upper end of E covering the joint between the plate C and the sides of the fire-box, so as to prevent any of the gaseous products of combustion from getting through the joint into the air-heating chamber D below. The two side edges  $c' c'$  of the plate C are each curved sufficiently downward to reach the bottoms of the respective troughs  $a^4 a^4$ , formed of the lower edges, respectively, of the protecting-plates A A, which are secured to the inner sides (in respect to the fire-chamber) of the ovens B B, and thus form together a sufficiently tight joint to prevent the draft of gas or air when the said troughs are filled with fine sand or its equivalent. The bonnet F forms an upward-inclined outlet for the passage of the hot air of chamber D to the distributing-flues, (not shown,) and consists of an inclined top plate, with triangular ends at right angles to said inclined plate, the rear and bottom edges of said end plates being at right angles to each other, respectively, and flanged outward so as to produce the flat flanges  $f' f'$  at the vertical edges of the triangular ends, and the downward-curved flanges  $f'' f''$  at the horizontal or bottom parts of the said triangular ends. The upper edge of the inclined top of F is bent vertically upward, so as to form a flat flange,  $f'''$ . The flanges  $f' f'$  and  $f'''$  are bolted to the back plate of the range, through which there is an opening corresponding in area and form with the open back or rear area of the bonnet F, for the purpose of allowing the hot air to pass through to the distributing upward flue. (Not shown.) The downward-curved



flanges  $f'' f''$  enter and rest in the respective troughs  $a^4 a^4$  of the protecting-plates A A of the ovens B B, and thus form therewith joints, which prevent any draft of air or gas through them when said troughs are filled with fine sand. The front bottom edge of the inclined top plate of F is curved upward, so as to produce a trough, 5, into which the downward-curved inner end  $c''$  of plate C rests, and forms therewith a sufficiently tight joint to prevent the draft of air or gas when the said trough is filled with fine sand.

It will be seen that the sand-joints described afford the greatest facilities for the application and removal of the fuel box or cylinder E; plate C, and bonnet F, as occasion may at any time require.

If the range has but one oven, B, the opposite side of the hot-air chamber D and combustion-chamber above the plate C, and of the ash-pit, will be, generally, of brick, and the required trough to make the sand-joint with that side of the plate C and bonnet F can be readily walled in thereat for the purpose.

I claim as my invention—

1. The oven-protecting plate A, with its trough  $a^4$ , in combination with the downward-projecting side edge  $c'$  of the plate C, and the downward-projecting side edge  $f''$  of the hood F, substantially as described, for the purpose of affording a sand-joint at the junction of the plate A with the plate C and hood F, and consequently ready facility in applying and removing the parts, as occasion may require.

2. The downward-curved edge  $c''$  of the plate C, in combination with the upward-curved edge 5 of the hood F, as set forth, for the purpose of affording a sand-joint between the two parts C and F, and consequently ready facility in applying and removing the parts, as occasion may require.

ALONZO DEDERICK.

Witnesses:

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WM. H. MORISON.