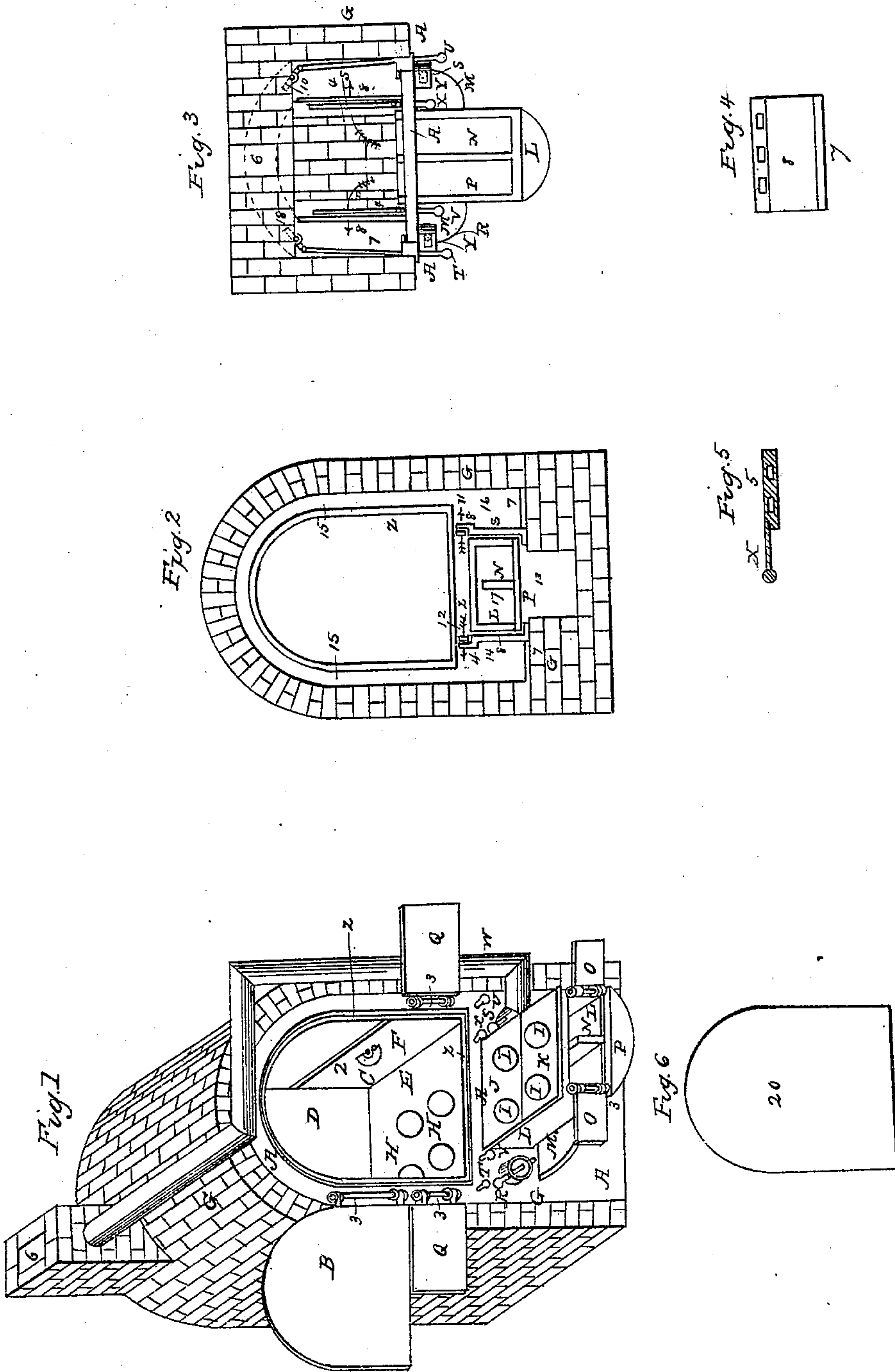


ELDER & THORN.

Domestic Oven.

No. 13,868.

Patented Dec. 4, 1855.



UNITED STATES PATENT OFFICE.

JOHN A. ELDER, OF WESTBROOK, MAINE, AND WM. J. THORN, OF HOLLISTON,
MASSACHUSETTS.

ARRANGEMENT OF FLUES AND DAMPERS OF COOKING APPARATUS.

Specification of Letters Patent No. 13,868, dated December 4, 1855.

To all whom it may concern:

Be it known that we, JOHN A. ELDER and WILLIAM J. THORN, the former of Westbrook, in the county of Cumberland, in the State of Maine, the latter of Holliston, in the county of Middlesex, in the State of Massachusetts, have jointly invented certain Improvements in Cooking Apparatus, which we denominate the "Economist;" and we hereby declare that the following is a full and clear description of the same, reference being made to the accompanying drawings, making a part of this specification.

Figure 1 is a perspective view. Fig. 2 is an end view of the fire box oven and arch. Fig. 3 is a top view with the part above the fire box removed. Fig. 4 is a side view of the plate 7 and flange 8. Fig. 5 is a side view of dampers 4 and 5, and rod X. Fig. 6 is a side view of oven door 20.

The same letters and figures refer to the same parts in all the drawings.

Our invention consists in the arrangement of the parts, whereby we promote greater convenience and economize fuel as will be more fully set forth in the following description.

A is the door frame secured to the brick work G. The firebox L is supported by the plate 7 and the hearth M, which is secured to the frame A. The plate P, is the bottom of the fire box; E, the bottom of the oven; D, the back of the oven; Z, front end of the oven. The sheet-iron plate F forms the sides and top of the oven and is united at bottom with bottom plate E, and in the rear to back plate D. The oven is supported on the partition plate 8.

H and I, are potholes.

The plates J and K, covering the fire are removed when the fire box is shoved back under the oven, or the plate J, only, when partly moved back. The removable division plate N, of the firebox is for the purpose of decreasing the size of the fire space when only a small quantity of fuel is necessary.

Q and B, are oven doors hinged to the frame A by rod 3.

O, O, are the fire box-doors.

The tube W, is connected with the flue space at Y and extends to the chimney-flue 6. The flanges at the top of plate 8, are also provided with slide dampers 4 and 5.

10 and 15 are revolving dampers support-

ed by axles and operated by the rods T and U extending through the chambers 14 and 16. The rods V and X serve to operate the sliding dampers 4 and 5.

R and S, are dampers within the tube or pipe W, at Y.

20 is an oven door made to fit within the frame A from 2 to 4 inches back of the doors B and Q. The oven door B may be provided with holes for the emission of heat.

C is a damper within the oven in Fig. 1. The oven doors B and Q, may be lined with tin plate for the purpose of reflecting heat and preventing its escape into the room.

When the oven is in use for the purpose of cooking the damper C, should be open for the escape of steam or odors arising therefrom. By closing the dampers 5, 10, and 18, the products of combustion pass through the openings made by withdrawing the damper 4 in flange 8 (see arrow 12), thence through flue 15, over the oven down into the chamber 16, thence into the tube W, thence to chimney flue 6, thus keeping the room in which the apparatus is situated warm. If desirable to keep the room cool, close the damper S and open damper 10, and the heat will pass directly from chamber 16 to flue 6. When the heat is not necessary around the oven the damper 5 should be also opened. When the oven is too hot close the draft of fire box L and open damper R and the cold air will pass from the room into chamber 14 and from thence the cold air may be caused to pass over or under the oven by operating the proper dampers. When the four dampers 4, 5, 10 and 18 are all open the heat passes direct to chimney flue 6. By using the fire box withdrawn for purpose of cooking or otherwise the movable plates J and K are applied as represented at Fig. 1 and by this means additional heat is obtained within the room. The room however may be kept comparatively cool by leaving open the dampers as above stated and sliding the fire box back and then the pot holes within the oven will serve the purposes of those in an ordinary stove. When the oven is used for ordinary purposes the damper 6 should be opened for the escape of heat and odors. The fire box L may be dispensed with when the oven is placed within a fire place.

The object of our invention is to more effectually control the heat for the purposes

of warming or heating rooms and for cooking and thereby economize the use of fuel.

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

5 The arrangement of the dampers 4, 5, 10, 18, and R S, in combination with the oven flues 14, 15 and 16, in the manner substan-

tially as described for regulating and controlling the heat for the purposes specified.

JOHN A. ELDER. [L. S.]

WILLIAM J. THORN. [L. S.]

Witnesses:

DAVID HAYES,

ABEL POND.