

A. W. WHITNEY.

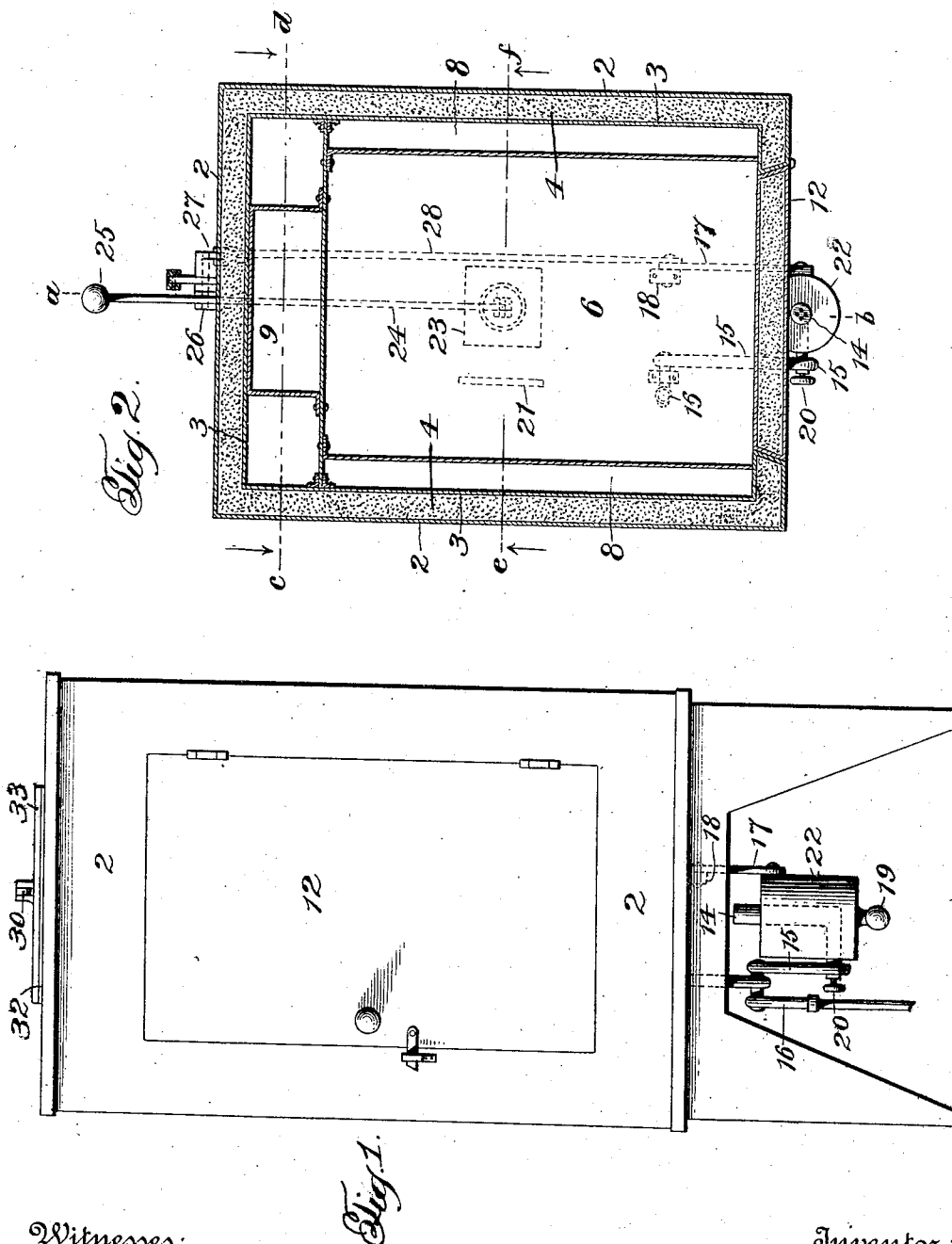
OVEN.

APPLICATION FILED JULY 31, 1911.

1,033,075.

Patented July 16, 1912.

3 SHEETS—SHEET 1.



Witnesses:

Jas. Hutchinson,
Thos. C. Stead.

Inventor:

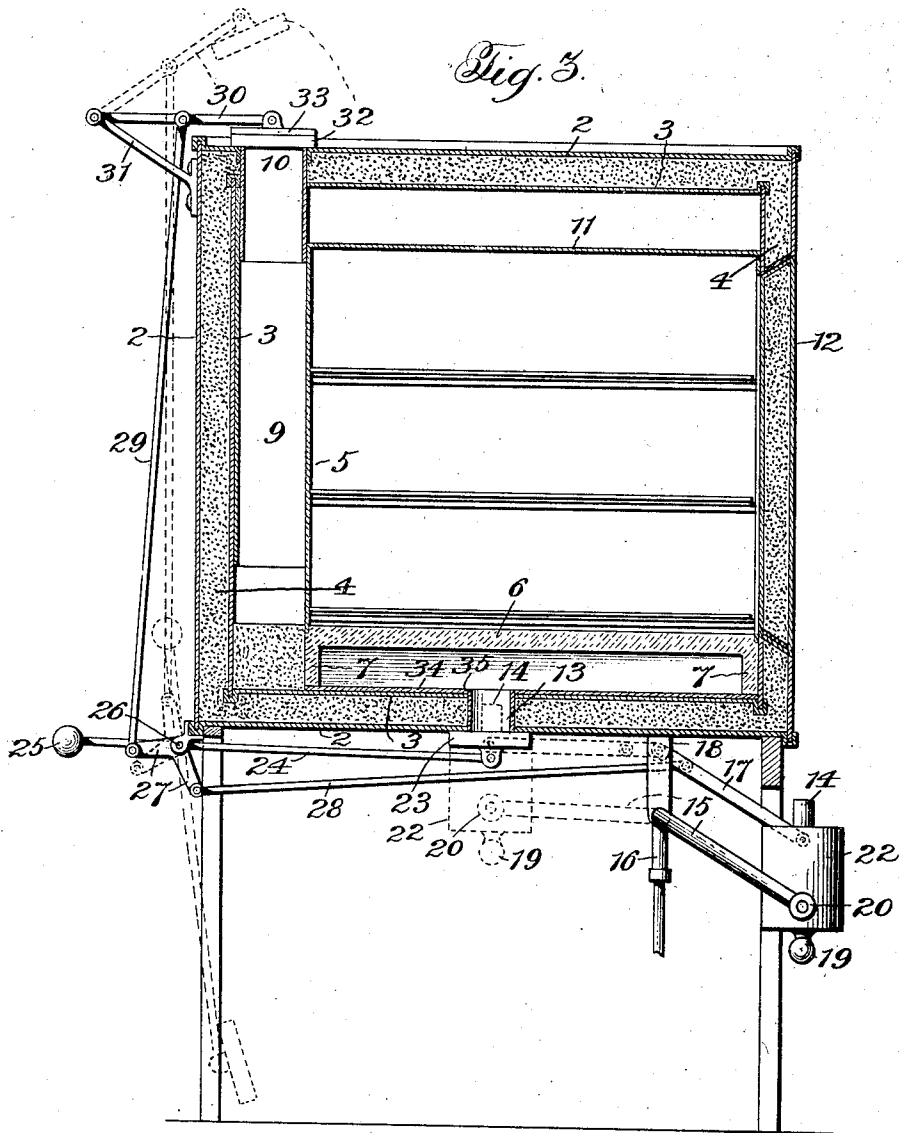
Albert W. Whitney
By Seymour Pearce Attorneys.

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Thos. C. Strick,

Inventor.

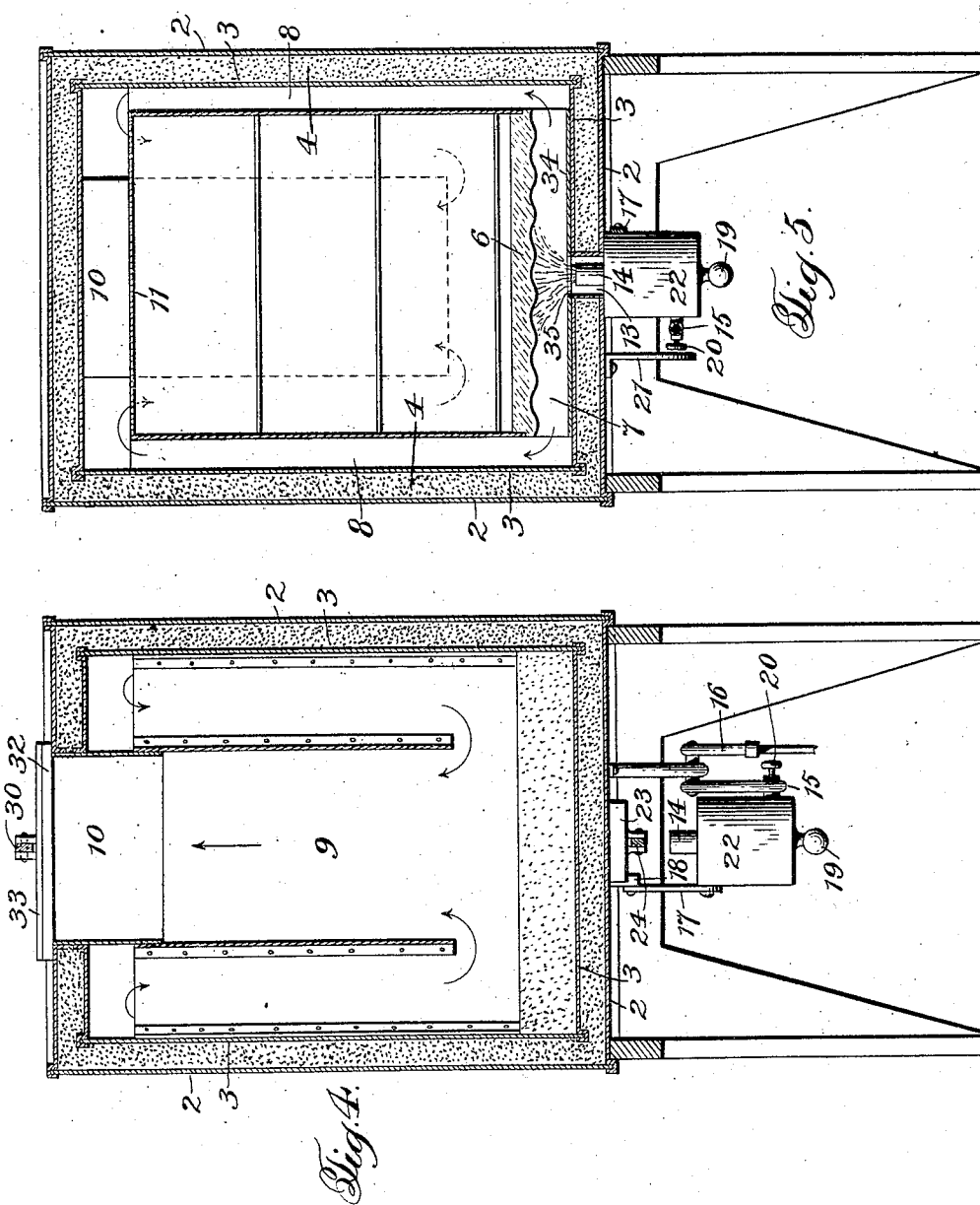
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UNITED STATES PATENT OFFICE.

ALBERT W. WHITNEY, OF BERKELEY, CALIFORNIA.

OVEN.

1,033,075.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed July 31, 1911. Serial No. 641,584.

To all whom it may concern:

Be it known that I, ALBERT W. WHITNEY, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented a new and useful Improvement in Ovens; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a front view of an oven constructed in accordance with my invention. Fig. 2 a horizontal sectional view. Fig. 3 a vertical section on the line *a-b* of Fig. 2. Fig. 4 a sectional view on the line *c-d* of Fig. 2. Fig. 5 a sectional view on the line *e-f* of Fig. 2.

This invention relates to an improvement in ovens, and particularly to ovens for domestic cooking.

The object of the invention is to provide an oven which may be heated with gas or other heat producing means, and in such a way that when the oven has been heated to the desired extent the source of heat may be removed and the oven closed so as to become in effect a fireless cooker; and the invention consists in the construction hereinafter described and particularly recited in the claims.

In carrying out my invention I employ an outer casing 2 and an inner casing 3, the inner casing corresponding in shape but of smaller size than the outer casing so as to form a space 4 between them which may be filled with asbestos or other non-conductor of heat. Within the inner casing is a drum or oven proper 5. This drum is closed at its upper end and rests upon and is secured to a heating-plate 6 of heavy cast-metal which has flanges 7 at the front and back, and secured to these flanges is a bottom 34 of thin sheet metal so as to form a combustion chamber, and this bottom has a burner opening 35. The under face of the plate 7 may be corrugated or ribbed so as to more perfectly distribute heat. This drum or oven is narrower than the width of the casing so as to provide narrow passages 8 at each side leading from the chamber below the plate and does not extend to the rear

wall of the casing leaving room for the introduction of a flue 9 which opens through the top of the casing through a flue opening 10. The top 11 of the drum does not reach the top of the inner casing and so leaves a space into which heat may pass from the passages 8. The front of the casing will be provided with a door 12 which opens into the oven drum and which door will make a tight joint with the casing. In the bottom of the casing and registering with the opening 35 is a port or burner opening 13 through which a burner 14 may extend. This burner, if gas is employed, will be of the Bunsen type. Preferably and as herein shown, this burner will be connected with the outer end of a tubular arm 15 which is swiveled at its inner end to a supply pipe 16. The other side of the burner will be connected by a link 17 with a bracket 18 secured to the underside of the casing. The length of the link 17 and tubular arm 15 will be such as to permit the burner to enter the port 13 and then when turned downward and forward will present the burner below and in front of the oven where it may be conveniently lighted. The burner may be conveniently moved by a handle 19 and the source of supply will be controlled by a stop cock 20, and to prevent this valve being operated when the burner is in the oven a guard plate 21 will be secured to the underside of the casing and so as to extend downward. Preferably and as herein shown the burner will be surrounded by a shield 22.

In order to close the burner opening 13 and the vent 10, I pivot a burner opening shutter 23 at the inner end of an arm 24 which is provided at its outer end with a weight 25, and mount this arm upon a pin or rock shaft 26 on which is also mounted a bell crank lever 27. One arm of this lever is connected by a link 28 with the link 17, and the other arm is connected by a link 29 with a vent-shutter arm 30 pivoted to a bracket 31 secured near the top of the casing, and on the arm 30 is a vent shutter 32. At the top of the shutter is a weight 33. As herein shown the shutters are pivotally connected with their arms so that they will accommodate themselves to any irregularities in the surfaces of the casing.

To operate the oven the burner is lighted and then turned rearward and upward so

as to project through the port 13, and this inward movement of the burner turns the shutters away from the port and the vent. The burner heats the plate 6 and the gases or heat pass out from below the plate at opposite sides upward through the passages 8 over the top of the drum, thence downward on opposite sides of the flue 9, and then upward through the flue and out of the flue opening 10. Ordinarily the combustion will be so perfect that there will be no smoke issuing from the flue opening 10 but preferably the oven will have connection with a chimney. When the temperature in the oven has reached the desired point the burner is withdrawn and extinguished, and the withdrawal of the burner moves the shutters to their closed position and so that the burner opening 13 and flue opening 10 are tightly closed. The oven then becomes a fireless cooker and the heat in the oven will be maintained for a long period so that food in the oven will continue to cook long after the burner is extinguished. The employment of a heavy or thick heating plate tends to distribute the heat evenly throughout the oven so that it will cook equally well in all parts. The heat is largely abstracted at its first contact with the metal plate; but whatever heat is not taken up in this way is taken up while the gases are passing around the oven. As the heat generated in the oven is not allowed to pass off into the room in which the oven is placed or into the chimney, it is all retained which not only increases the efficiency of the oven in cooking but avoids raising the temperature of the room in which the oven is placed. As the stop cock cannot be opened except when the burner is removed from the oven, it follows that the operator may always be certain that the burner is lighted before the burner is turned into position below the oven. As the heat is applied directly to the heating-plate the other parts of the oven will not be injured thereby but the casing is constructed from sheet metal and the parts are so joined together that they may be separated if necessary.

I claim:—

1. An oven comprising a casing; a drum within the casing, the casing formed with a burner opening below said drum and with a flue opening at the top, a burner adapted to be turned into line with the burner opening, a shutter for the burner opening, and connection between the shutter and burner whereby when the burner is removed from

the casing the shutter will be turned to close the burner opening.

2. An oven comprising a casing formed with a burner opening at the bottom and a flue opening at the top, a drum within the casing and smaller than the casing whereby a passage is formed between them from the burner opening to the flue opening, a burner adapted to be turned into line with the burner opening, a shutter for the burner opening, a shutter for the flue opening, and connections between said shutters and burner whereby when the burner is removed from the casing the shutters will be closed.

3. An oven comprising a casing formed with a burner opening at the bottom and a flue opening at the top, a drum within the casing, said drum smaller than the casing so as to provide passages between them from the burner opening to the flue opening, a heating plate at the bottom of the drum and above the bottom of the casing forming a combustion chamber, a burner, a link connecting the burner with the casing whereby said burner is adapted to be turned into the burner opening, a shutter arm pivoted at the bottom of the casing and carrying a shutter adapted to close the said burner opening, a flue shutter arm pivotally connected with the upper part of the casing, a flue shutter carried by said flue shutter arm and adapted to close said flue opening, a bell crank lever at the bottom of the casing connected with the burner opening shutter arm, a link connecting said bell crank lever with the burner link and with the flue shutter arm whereby when the burner is moved away from the burner opening the shutters will be brought into position to close the burner opening and the flue opening.

4. An oven comprising a casing formed with a burner opening at the bottom and a flue opening at the top, a drum within said casing, said drum smaller than the casing so as to provide passages between them, a heating plate at the bottom of the drum and above the bottom of the casing forming a combustion chamber, a burner adapted to enter the burner opening, and shutters for the burner opening and flue opening.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ALBERT W. WHITNEY.

Witnesses:

FREDERIC C. EARLE,
CLARA L. WEED.