

B. F. STURGEON.

FURNACE.

APPLICATION FILED JAN. 17, 1912.

1,034,162.

Patented July 30, 1912.

2 SHEETS—SHEET 1.

FIG. 2

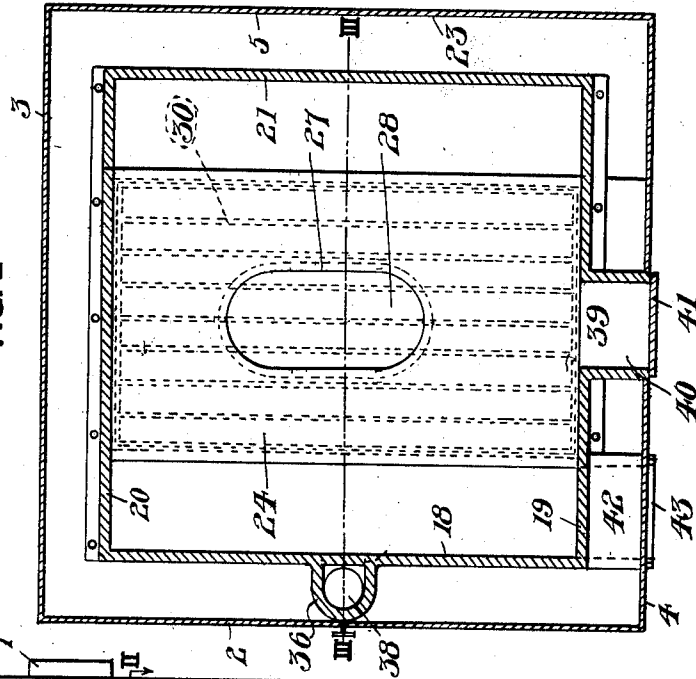
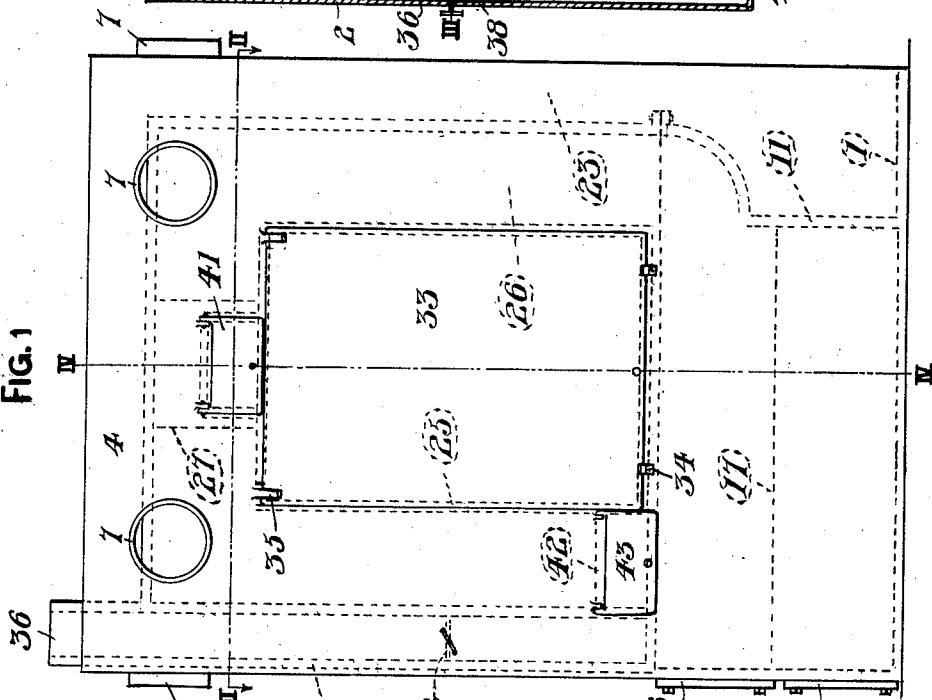


FIG. 1



WITNESSES

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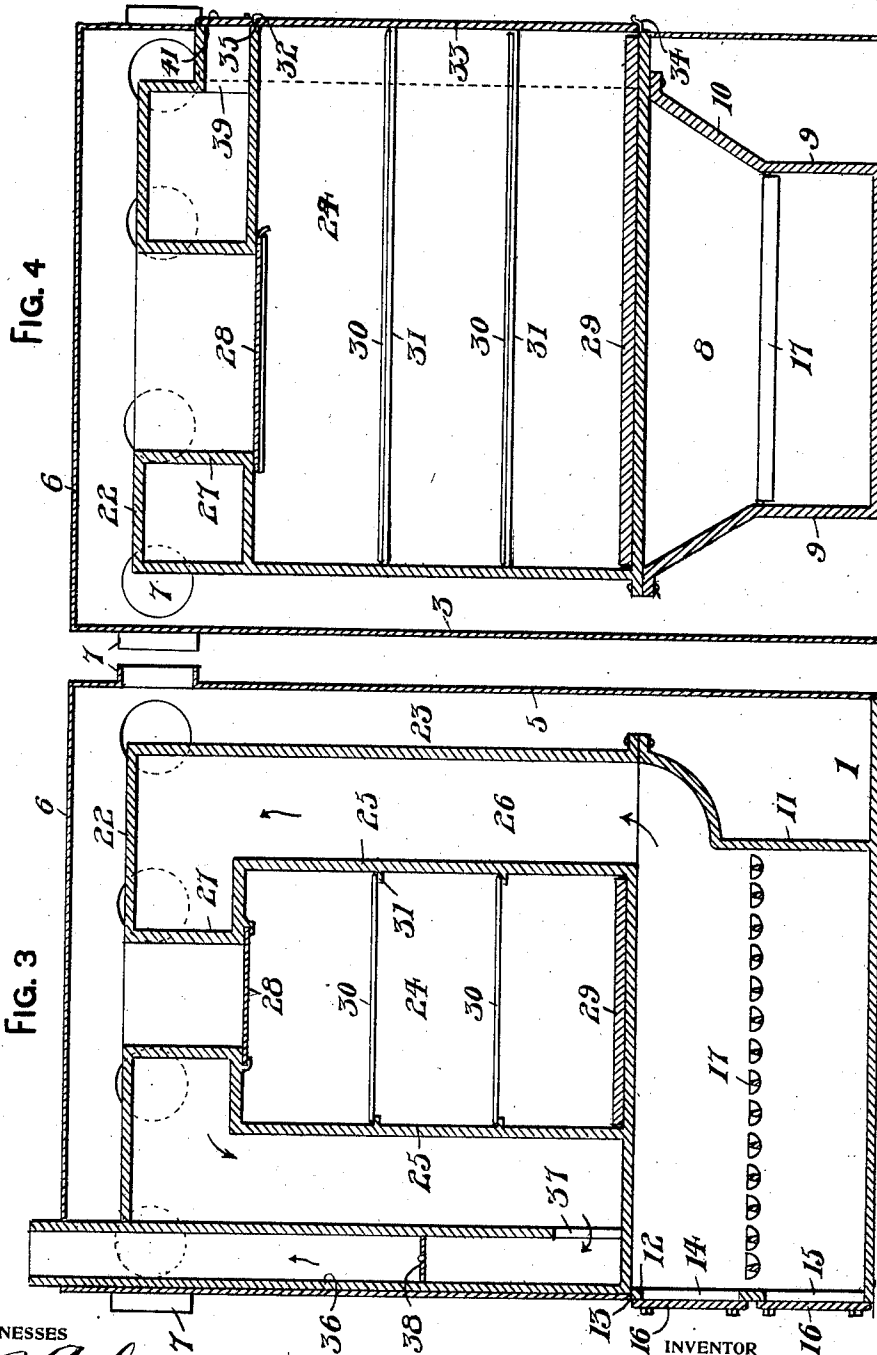
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UNITED STATES PATENT OFFICE.

BENJAMIN F. STURGEON, OF YOUNGSTOWN, OHIO, ASSIGNOR OF ONE-HALF TO GEORGE T. TAYLOR, OF YOUNGSTOWN, OHIO.

FURNACE.

1,034,162.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENJAMIN F. STURGEON, a citizen of the United States of America, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Furnaces, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to furnaces, and more particularly to a hot air furnace employed for heating residences, restaurants and bakeries.

The primary object of my invention is to provide a furnace with a novel oven that permits of bread and other matter being baked by the same fire employed for heating the air within the furnace.

Another object of this invention is to provide a furnace construction of the above type that is durable, inexpensive to manufacture, and highly efficient for the purposes for which it is intended.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings, wherein like numerals denote corresponding parts throughout the several views, in which:—

Figure 1 is a side elevation of a furnace in accordance with this invention, Fig. 2 is a horizontal sectional view of the same taken on the line II—II of Fig. 1, Fig. 3 is a vertical longitudinal sectional view taken on the line III—III of Fig. 2, and Fig. 4 is a cross sectional view of the furnace taken on the line IV—IV of Fig. 1.

A furnace in accordance with this invention comprises an outer rectangular casing having a bed plate 1, a front wall 2, side walls 3 and 4, a rear wall 5 and a top plate 6. The walls 2 to 5 inclusive, adjacent to the upper edges thereof, are provided with hot air outlet openings 7 to which flues (not shown) can be connected for conveying hot air to the compartments of a building.

Located upon the bed plate 1, within the outer casing, is a combustion chamber 8 that has side walls 9 with the upper edges thereof inclined, as at 10, a rear wall 11 and a front wall 12. The front wall 12

is located in an opening 13 provided therefor in the front wall 2 of the outer casing, and the front wall 12 has openings 14 and 15 normally closed by doors 16. The walls 9 of the combustion chamber support grate bars 17 and the opening 14 permits of coal or other fuel being placed in the combustion chamber, while the opening 15 permits of ashes or residue being removed.

Suitably secured to the upper edges of the walls 9 and 11 are the lower edges of an oven structure comprising a front wall 18, side walls 19 and 20, a rear wall 21 and a top plate 22, all of which are spaced from the walls 2 to 5 inclusive and the top plate 6 in order to provide a hot air compartment 23 that is in communication with the openings 7.

Within the oven structure there is a transverse oven 24 having the side walls 25 thereof spaced from the front and rear walls 18 and 21 of the oven structure in order to provide a combustion compartment 26. The oven 24 extends from the wall 20 to the wall 19 of the oven structure and the top of the oven is formed integral with the top plate 22 by a flue 27 that is normally closed by a slide 28, carried by the top of the oven. Within the oven 24 there is a bottom plate 29 and shelves 30, said shelves being supported by inwardly projecting lugs or ribs 31, carried by the walls 25 of the oven.

One end of the oven 24 extends through the wall 19 to an opening 32 in the side wall 4 and this open end of the oven is closed by a hinged door 33 retained normally closed by catches 34 of a conventional form. The door 33 is hinged at the upper end thereof, as at 35 and the catches are located at the lower edge of the opening 32 to retain the door 33 closed.

Formed integral with the front wall 18 of the oven structure is an exhaust flue 36 that extends from the combustion chamber 8 upwardly through the top plate 6 of the furnace and is in communication with a stack or chimney. The exhaust flue 36 has the lower end thereof provided with an opening 37 in communication with the combustion flue 36 and within said exhaust flue is a conventional form of damper 38.

The side wall 19 of the oven structure has a cleaning opening 39 and access is had to this opening through the medium of an opening 40 in the side wall 4. The opening

40 is normally closed by a hinged door 41. The walls 19 and 4 are provided with similar openings 42 normally closed by a door 43. The openings 39 and 40 are located directly above the doorway 32 and the openings 42 are directly above the combustion chamber 8. These openings permit of the walls of the combustion flue 26 being scraped and soot removed from the same.

When the furnace is in operation, matter can be placed in the oven 24 and baked, and when the oven is not to be used, the slide 28 can be removed, whereby the hot air within the oven can pass upwardly through the flue 27 into the hot air flue 23 and exhaust through the openings 7.

It is thought that the operation and utility of the combined furnace and oven will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements thereof are susceptible to such variations as fall within the scope of the appended claims.

What I claim is:—

A furnace comprising an outer casing pro-

vided near its top with openings, means to provide a combustion chamber arranged in the bottom of said casing, said means spaced from the rear and sides of said casing, an oven casing structure secured to said means and including front, side and rear walls and a top plate spaced from said casing, and communicating with said combustion chamber, an oven structure mounted in and spaced from the walls of said oven casing, a flue for establishing communication between the top of said oven structure and the upper portion of said outer casing, means carried at the top of the oven structure for normally closing said flue, an exhaust flue positioned within and projecting from said outer casing in the front portion thereof and communicating solely at its lower end with the lower portion of said oven casing at the front thereof, and a damper in said exhaust flue.

In testimony whereof I affix my signature in the presence of two witnesses.

BENJAMIN F. STURGEON.

Witnesses:

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MAX H. SROLOVITZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."