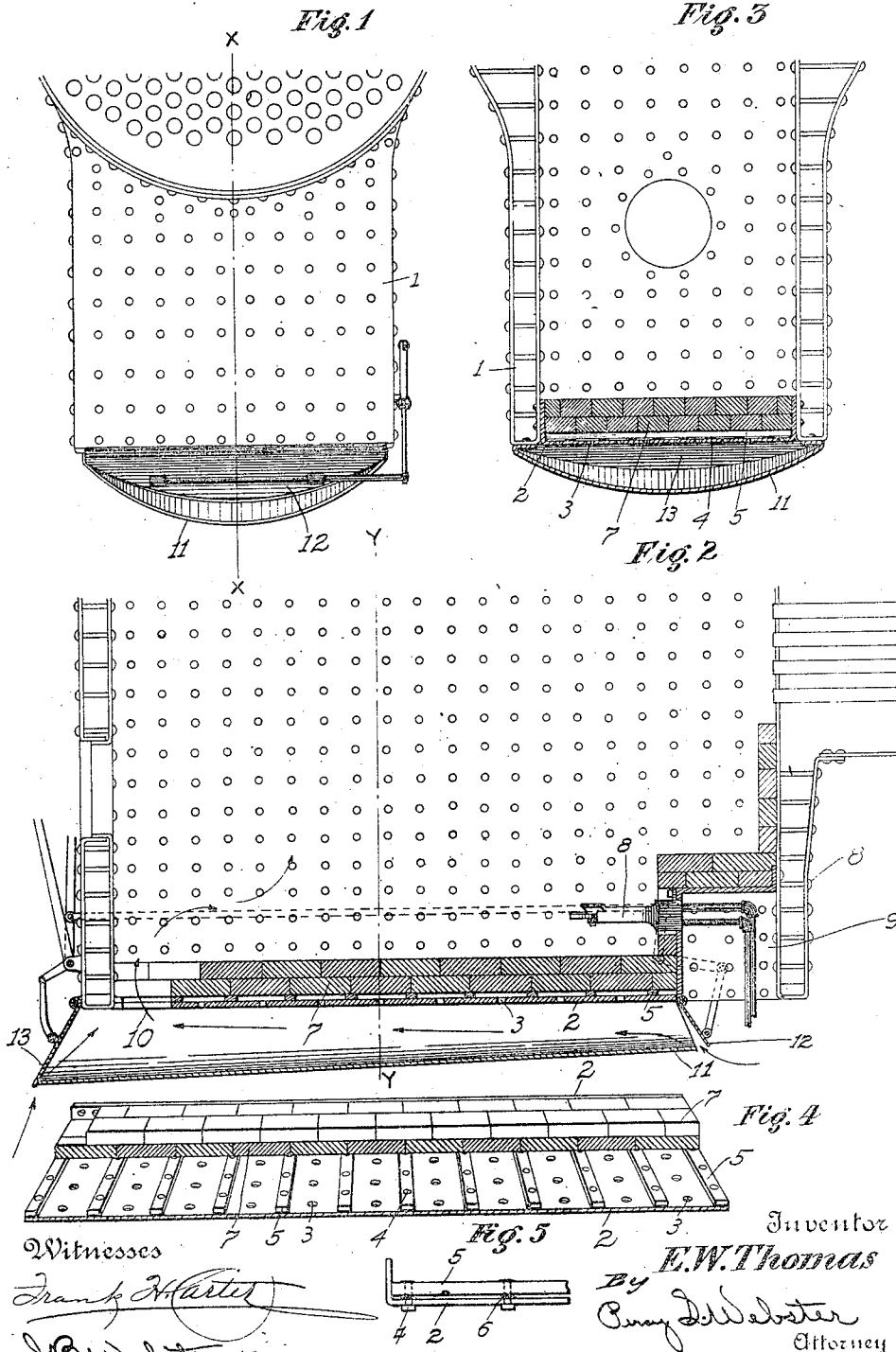


E. W. THOMAS.
OIL BURNING FURNACE.

APPLICATION FILED JAN. 25, 1911. RENEWED NOV. 26, 1912.

1,051,031.

Patented Jan. 21, 1913.



UNITED STATES PATENT OFFICE.

EDWARD W. THOMAS, OF STOCKTON, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO T. B. LITTLETON, OF STOCKTON, CALIFORNIA.

OIL-BURNING FURNACE.

1,051,031.

Specification of Letters Patent.

Patented Jan. 21, 1913.

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To all whom it may concern:

Be it known that I, EDWARD W. THOMAS, a citizen of the United States, residing at Stockton, in the county of San Joaquin, State of California, have invented certain new and useful Improvements in Oil-Burning Furnaces; and I do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in fire boxes in which oil burners are used, the object of the invention being to produce a fire pan for the same which will preheat the air passing into the fire box, thus preventing expansion and contraction due to cold air striking sheet plates and flues, and also aiding in combustion.

A further object of the invention is to produce a simple and inexpensive device, and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a rear elevation of a fire box showing my improved pan installed thereon. Fig. 2 is a sectional view taken on a line X—X of Fig. 1. Fig. 3 is a sectional view taken on a line Y—Y of Fig. 2. Fig. 4 is a perspective view partly in section showing the details of my improved fire pan. Fig. 5 is a fragmentary view of a portion of a fire pan showing the details of the air inlet thereto.

Referring now more particularly to the characters of reference on the drawings, 1 designates the fire box of any type desired for the use of oil burners, into the bottom of which fire box I bolt a channel shaped fire pan 2, which pan has a plurality of holes or

crifices 3. Disposed across the pan 2 and bolted to the bottom thereof by means of bolts 4, are cross bars 5, there being washers 6 interposed between the bottom of the pan 2 and said members 5, which washers fit over the bolts 4. Suitably disposed upon the cross members 5 are two layers of fire brick 7. This fire pan and brick construction is built up close to the end of the fire box at which the burner 8 is located, as at 9, and is spaced from the other end of the fire box as at 10.

11 is a false bottom or pan disposed underneath the fire box 1 and having end dampers 12 and 13.

When the burner 8 is in operation, it, of course, heats the bricks 7 to a high degree and with the operation of the fire the air is drawn into the pan 11 and percolates through the holes 3 and through the space under the members 5 formed by the washers 6 holding said members 5 off the bottom of the pan 2, during which percolation the air comes into contact with the hot bricks 7 and becomes thoroughly preheated before it passes through the space 10 into the fire box.

It will, of course, be understood that the damper 12 will be open more than is the damper 13 in order to allow a greater sweep of the air over the hot surface of the bricks 7 than would be possible if a greater quantity of air was admitted through the damper 13. Thus it will be seen that all the air which passes into the fire box is preheated, and thus the objects of the invention as set forth herein are substantially fulfilled.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviation from such detail may be resorted to as do not form a departure from the spirit of the invention.

Having thus described my invention what I claim as new and useful and desire to secure by Letters-Patent is:

A device of the character described comprising a fire box, a channel shaped pan disposed in the bottom of said fire box and spaced from one end thereof, the bottom of

said pan having a plurality of orifices, a plurality of cross bars disposed in said pan and spaced from the bottom thereof, bricks mounted on said cross bars, an air passage disposed beneath said pan, and control dampers at each end of said air passage, as described.

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

EDWARD W. THOMAS.

Witnesses:

JOSHUA B. WEBSTER,

FRANK H. CARTER.