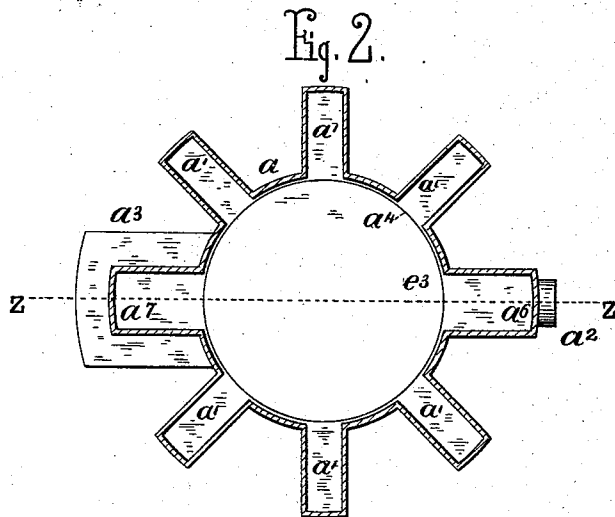
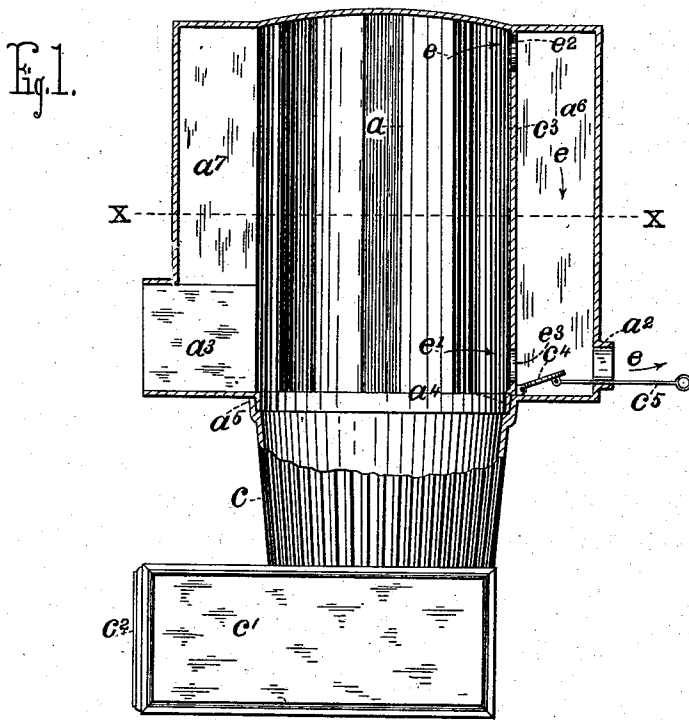


(No Model.)

A. ORMSBY.
HOT AIR FURNACE.

No. 349,736.

Patented Sept. 28, 1886.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER ORMSBY, OF BUFFALO, NEW YORK.

HOT-AIR FURNACE.

SPECIFICATION forming part of Letters Patent No. 349,736, dated September 28, 1886.

Application filed September 21, 1885. Serial No. 177,672. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER ORMSBY, a citizen of the United States, residing in the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Hot-Air Furnaces, of which the following is a specification.

My invention relates to certain improvements in the construction of hot-air furnaces, whereby the leakage of gas and smoke into the room or building is entirely avoided, and also a large amount of radiating-surface is obtained at comparatively small expense, all of which will be fully and clearly hereinafter shown, described, and claimed by reference to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section through line $z z$, Fig. 2, showing the upper portion of the furnace and the mode of its attachment to the fire box. Fig. 2 represents a horizontal section through line $x x$, Fig. 1, cutting through the upper part of the body of the furnace and radiating portions.

In said drawings, a represents the upper portion or body of the furnace. It is provided with the vertical radiating hollow portions a' , a^b , and a^c . The radiating portion a^b , at the rear, is made wider than those at the sides, so as to leave room for a damper and the rim a^2 , to which the pipe is connected in the usual way. a^3 at the front represents the opening through which the fuel is introduced. The bottom of the body a is provided with a rim, a^4 , adapted to fit in the top a^5 of the fire-box c . This whole upper part or body of the furnace, consisting of the hollow radiating portions a' , a^b , and a^c , pipe-rim a^2 , the partition c^3 , and the opening a^3 , is cast in one solid piece, so that there are no openings or seams, and it is consequently absolutely gas and smoke tight, which is a very important feature in a hot-air furnace. The fire-box c is provided with a grate made in any well-known way and the ash pit or box c' is made in the ordinary way and provided with the usual door, c^2 ; but as these parts are well known a further description here is unne-

cessary. In the back radiating flue is a partition, c^3 , having an opening, e^2 , at the top and an opening, e^3 , at the bottom. The bottom opening may be opened or closed by a damper, c^4 , having a rod, c^5 , jointed to it, so as to project through the rim a^2 and out through the elbow when put on; but this may be arranged in any other well-known way. It will be seen that by this construction when the damper is open, as shown in Fig. 1, the draft will be direct through the opening e^2 in the direction of the arrow e' , and when the damper is closed the products of combustion will pass up to the top of the drum and then through the opening e^3 and down to the pipe-opening and out in the direction of the arrows e . By this construction the furnace is very cheaply made, there are no horizontal surfaces to collect ashes or soot, and no flues to fill up, or upon which soot or ashes may be deposited; and, as above stated, the furnace is perfectly gas-tight. Furthermore, a very large radiating-surface is produced.

I claim as my invention.

1. The upper part or body of the furnace, consisting of the body a , having the hollow projecting radiating portions a' , a^b , and a^c , opening a^3 , partition c^3 , having openings e^2 , e^3 , pipe-rim a^2 , and rim a^4 , all formed in one solid piece, substantially as specified, in combination with a fire-pot, c , provided with a rim, a^5 , and the usual grate and ash-pit, c' , for the purposes described.

2. In a hot-air furnace, the combination, with a fire-pot, of the body a , having the radiating portions a' , a^b , and a^c , the portion a^c , having an opening, a^3 , through which the fuel is passed into the fire-pot, and the portion a^b , having a collar, a^2 , and partition c^3 , having an opening at the top and bottom and a damper for controlling the lower of said openings, substantially as and for the purposes described.

ALEXANDER ORMSBY.

Witnesses:

JENNIE M. CALDWELL,
JAMES SANGSTER.