(No Model.) 2 Sheets—Sheet 1.

J. J. RICHARDSON.

HEATING FURNACE.

No. 264,565. Patented Sept. 19, 1882.

Fig 1.

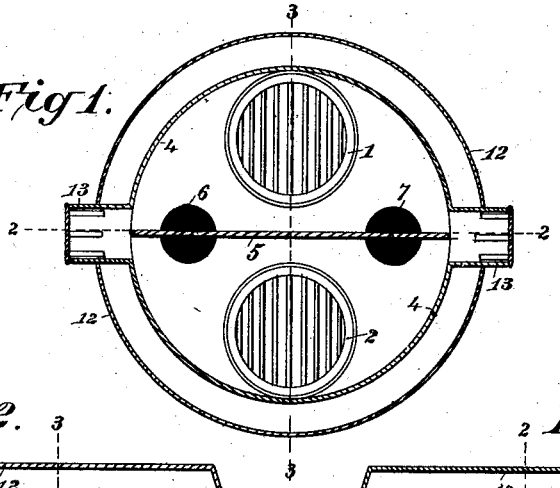


Fig 2.

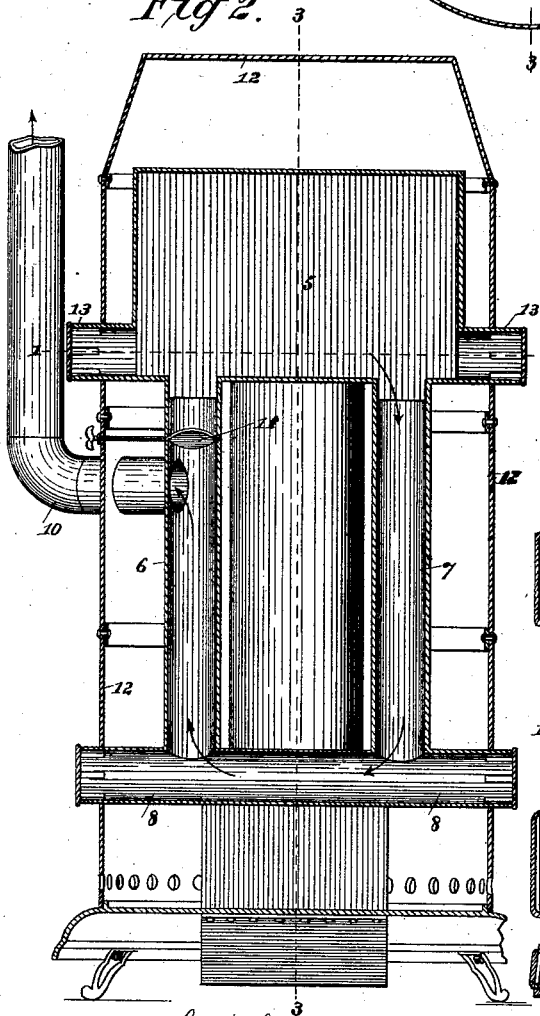
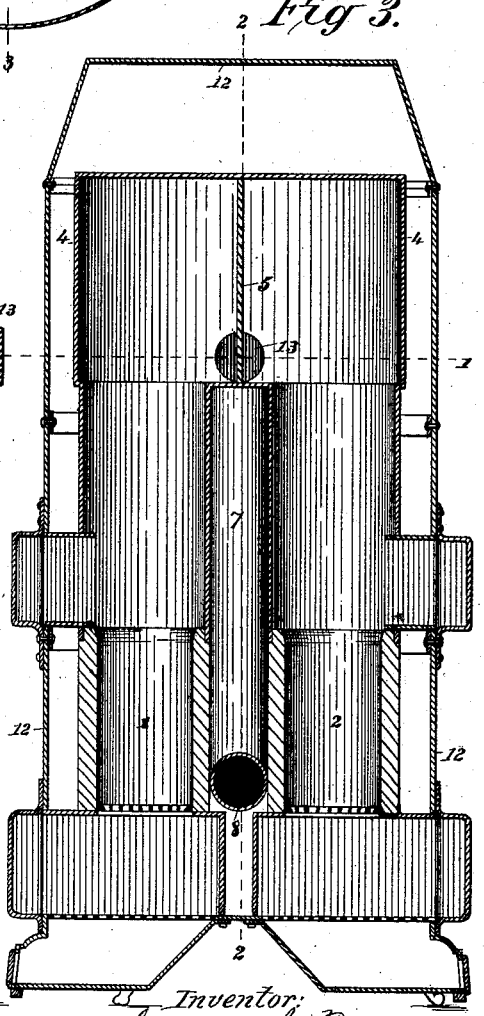


Fig 3.



Attest: Geo. T. Smallwood Jr.
Walter Allen

Inventor:
Jeremiah J. Richardson.
By Knight Bros
attys

(No Model.)

2 Sheets—Sheet 2.

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HEATING FURNACE.

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Fig 4.

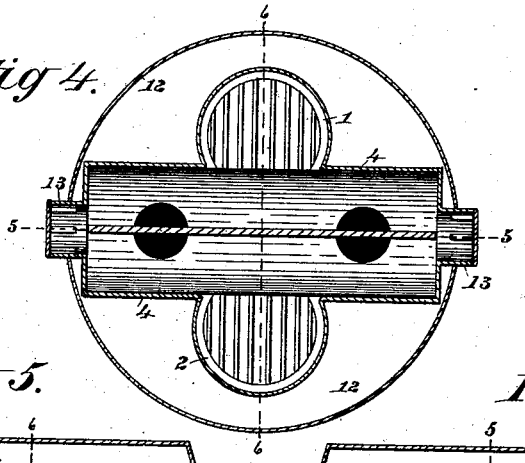


Fig 5.

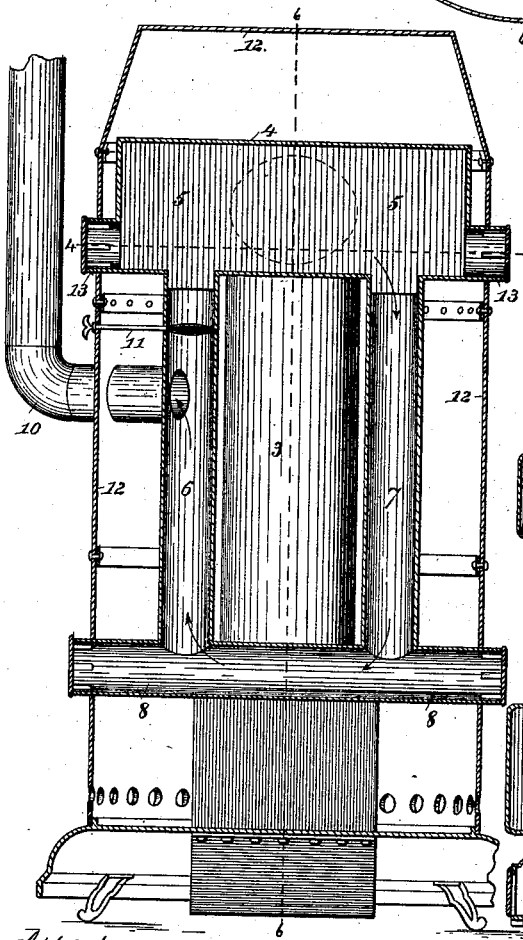
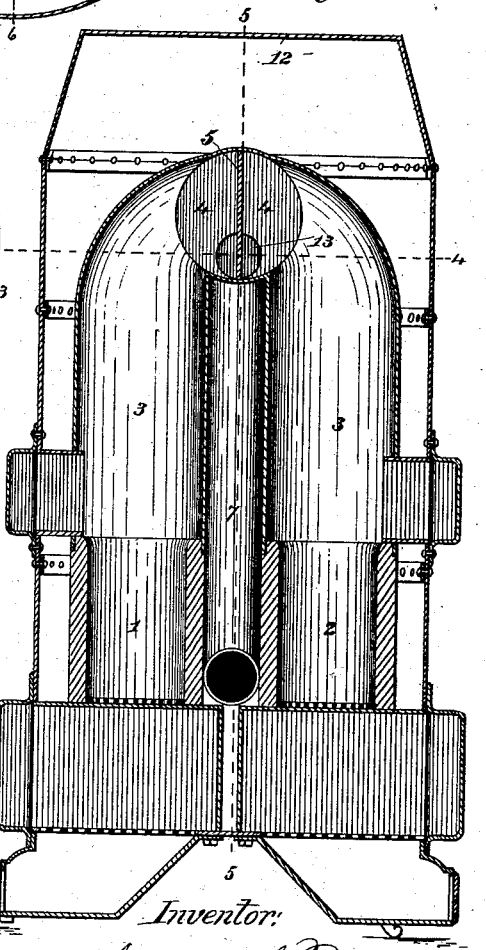


Fig 6.



Attest:

Geo. T. Smallwood Jr.

Walter Allen

Inventor:

Jeremiah J. Richardson

By Knight Bros

attys.

UNITED STATES PATENT OFFICE.

JEREMIAH J. RICHARDSON, OF BROOKLYN, NEW YORK.

HEATING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 264,565, dated September 19, 1882.

Application filed June 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH J. RICHARDSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Heating-Furnaces, of which the following is a specification.

My invention relates to a double furnace having separate fire-chambers, with a drum common to both, and a partition-plate inside the drum, serving to deflect the products of combustion from either furnace, which may be used alone, either to the discharge-flue or the descending radiating-flues under the control of a suitable damper.

In Letters Patent No. 228,119, granted to me the 25th day of May, 1880, I describe a double furnace with a drum common to both furnaces, and horizontal conducting-flues transverse to said drum, leading in one direction directly to the discharge-flue and in the other direction to a diving or descending radiating-flue, which connects below with a horizontal flue passing between the furnaces, and this latter, with an ascending flue, connecting with the discharge-flue beyond the damper.

The present improvements consist in locating the radiating-drum in a transverse position relatively to the fire-chambers, the latter being located respectively at the front and rear of the furnace. A partition-plate extending the entire length of the radiating-drum is arranged directly over the center of the downwardly-extending draft or discharge flues, one of which is provided with a damper and communicates with a flue leading to the chimney. By arranging the parts in the manner stated a radiating-drum of greater capacity than in the former patent is obtained, and the construction is also considerably simplified.

In the accompanying drawings, Figure 1 is a horizontal section on the line 1 1, Figs. 2 and 3, of a double furnace embodying my invention, with a vertical drum. Fig. 2 is a vertical section of the same on the line 2 2, Figs. 1 and 3. Fig. 3 is a vertical section thereof on the line 3 3, Figs. 1 and 2. Fig. 4 is a horizontal section on the line 4 4, Figs. 5 and 6, of a furnace of modified construction, also illustrating my invention, the drum being horizontal. Fig. 5 is a vertical section on the line 5 5, Figs. 4 and 6. Fig. 6 is a vertical section on the line 6 6, Figs. 4 and 5.

The furnaces proper, or fire-chambers, are shown at 1 and 2 communicating with a drum, 4, which latter is divided longitudinally by a partition-plate, 5. In the form of the invention shown in Figs. 4, 5, and 6, where the drum is horizontal, flues 3 3 lead from the respective fire-chambers to its central part.

6 7 are vertical flue-pipes, communicating with the drum 4, and connected at bottom by a horizontal flue, 8, passing between the furnaces 1 2 and extended to the discharge-flue, 10, which leads to the chimney. The direct flue-pipe 6 is provided with a damper, 11, which is closed when required to cause the products of combustion to pass through the whole length of the radiating-pipes 7 8.

The furnace-casing is shown at 12. Pipes 13 13, extending through the casing, give access to the interior of the drum for cleaning, the ends of said pipes being covered by customary caps or doors.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a heating-furnace, the combination of the transverse radiating-drum 4, having drop-flues 6 7 opening into the same, and the vertical division-plate extending through said drum the entire length thereof and located directly above the center of the drop-flue openings, with the fire-chambers 1 2, flues 3, communicating with the latter and with the radiating-drum 4, bottom connecting-flue, 8, discharge-flue 10, damper 11, and exterior casing, 12, substantially as and for the purpose herein set forth.

JEREMIAH J. RICHARDSON.

Witnesses:
GEO. A. BOYNTON,
CHARLES I. BOYNTON.