

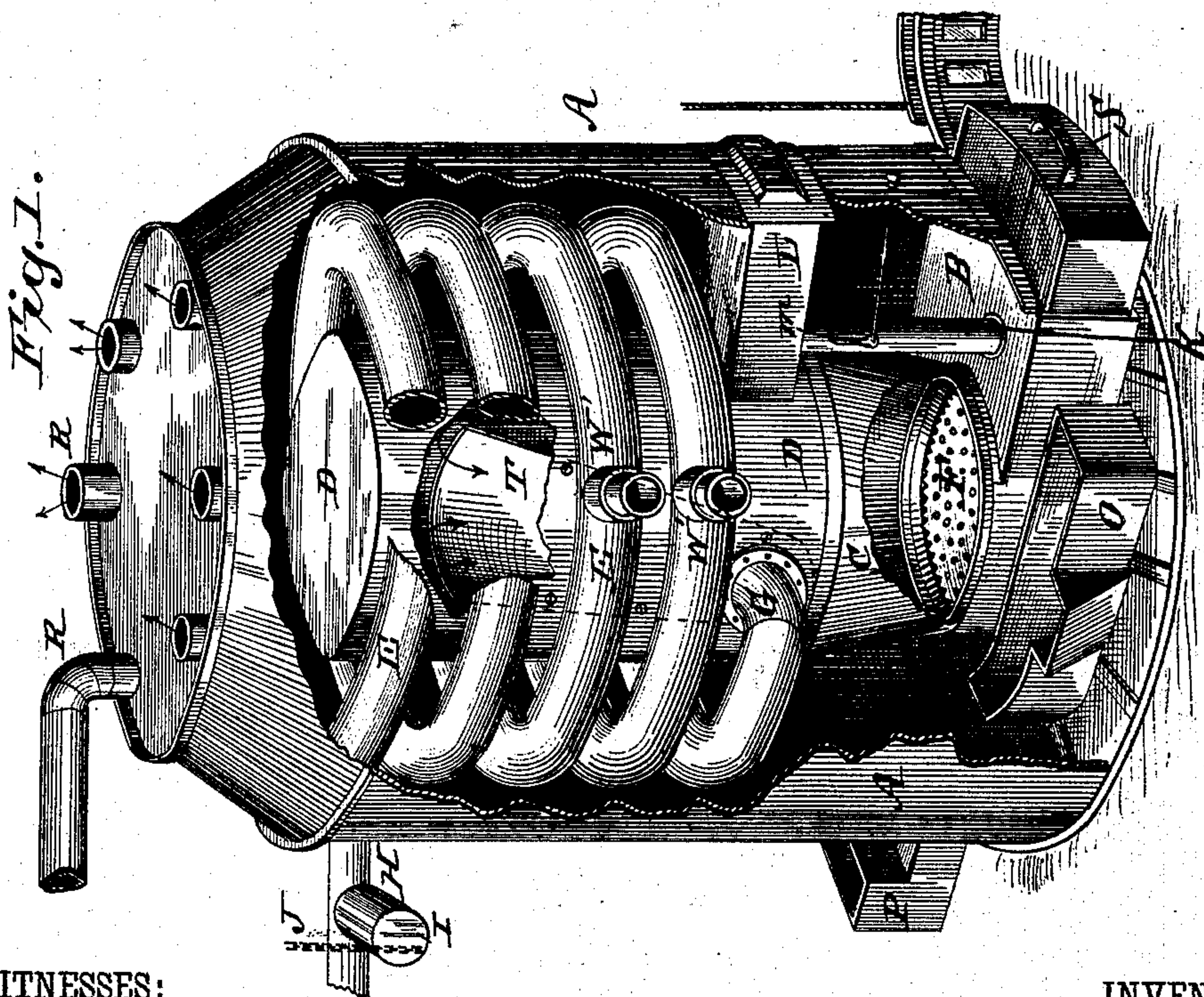
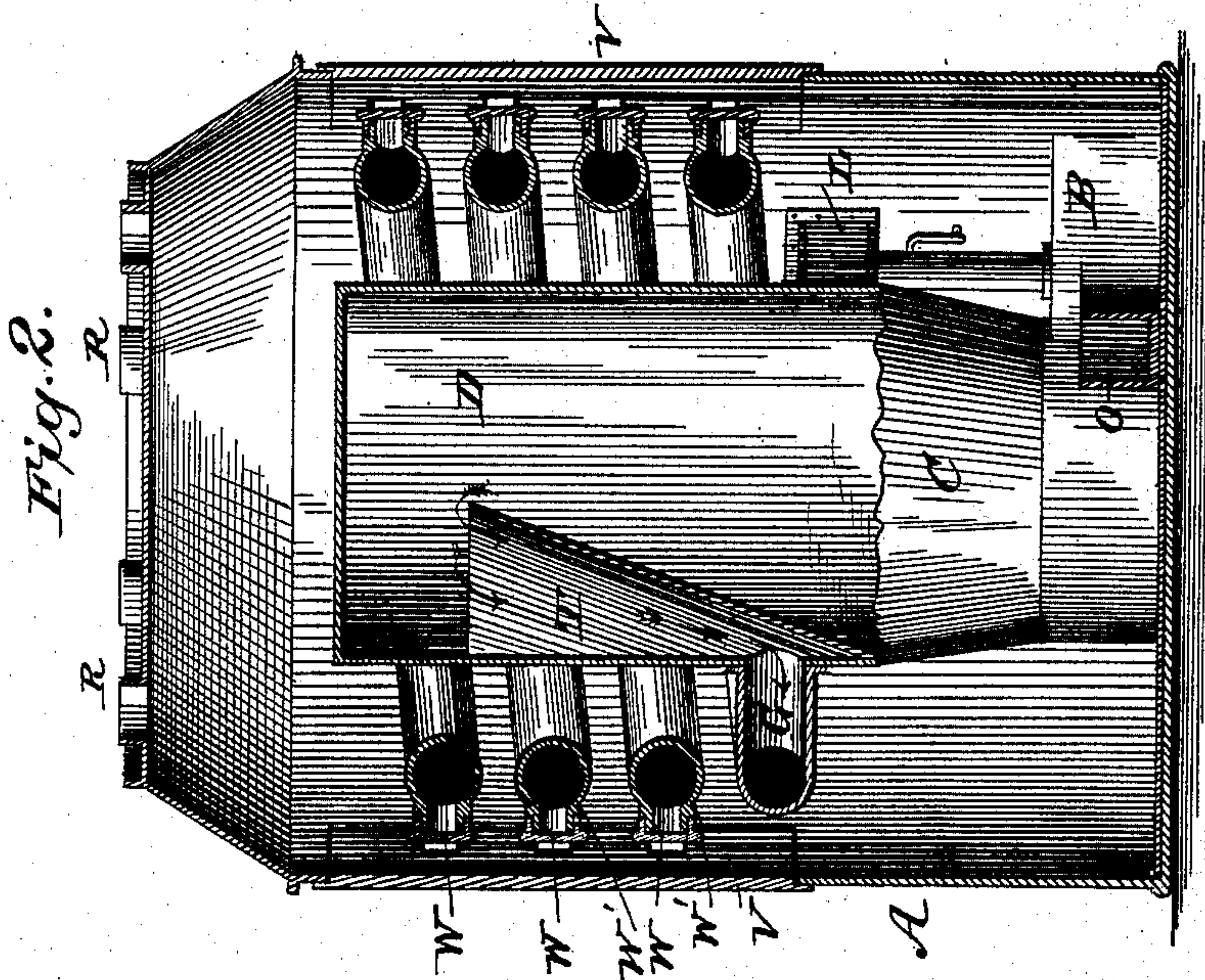
(No Model.)

M. H. JACOBS.

HOT AIR FURNACE.

No. 322,107.

Patented July 14, 1885.



WITNESSES:

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MIRON HALLY JACOBS, OF SYRACUSE, NEW YORK.

HOT-AIR FURNACE.

SPECIFICATION forming part of Letters Patent No. 322,107, dated July 14, 1885.

Application filed November 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, MIRON HALLY JACOBS, a citizen of the United States, residing at the city of Syracuse, county of Onondaga, and State of New York, have invented an Improved Furnace, known as the "Wrought-Iron Spiral Radiator Portable Warm-Air Furnace," of which the following is a description.

My invention relates to improvements in hot-air furnaces; and it consists in certain details of construction and operation of the several parts, as will be hereinafter more fully set forth in the specification, and pointed out in the accompanying drawings, in which—

Figure 1 is an elevation, partly in section, of my improved furnace; and Fig. 2 a vertical section of same.

The furnace consists of an exterior casing, A, of galvanized wrought-iron, and provided with a suitable inside lining of tin, with an air-space between it and the casing. In the center of this casing is situated the fire-pot, surmounted by a cylindrical dome, which is surrounded by a spiral radiator-tube proceeding from an opening, G, in the bottom or lower part of the dome, and having its exit in the chimney-flue. In the interior of the dome is suitably secured a cast-iron shield, T, tapering downwardly toward the fire-pot. The duct G at the bottom of the dome affords an opening from the shield T into the radiator-flue. This shield compels the flame and products of combustion to ascend around its exterior to the top of the dome, by which it is deflected downward into its interior, as indicated by the arrows, thus causing the dome to become thoroughly heated. These products of combustion are drawn through the opening in the dome at the bottom of shield T into the spiral radiator-flue, and thence out through the exit-pipe H.

The ash-pit B is provided with an ash-pan, S, and is made longer than those of general construction to adapt it to the position of the fire-pot C in the center of the furnace-casing, and the radiator E so encircles the dome as to be equidistant from it and from the outer casing, thus permitting the free circulation of cold air within the casing and on all sides of the radiator-flue, so that this admitted air may

become quickly heated by the radiated heat given off from the dome and spiral radiator. The large extent of radiating-surface afforded by this construction furnishes a much greater volume of heated air to be supplied to the apartments to be heated than in furnaces of ordinary construction.

The radiator consists of a heavy wrought-iron tube, E, from twenty to forty feet in length, of sufficient capacity to provide a free course for all the products of combustion, and, being a perfect spiral with regular curves throughout, affords an uninterrupted passage for the current without any break from the time it leaves the combustion-chamber or dome until it is discharged into the chimney. This radiator is constructed in sections extending half-way round the dome and united by joints on opposite sides of the dome, which joints are cemented and made perfectly tight. Each coil is provided on opposite sides of the dome with openings, having collars W', the openings being closed by removable caps W for the purpose of enabling the radiator to be readily cleared of soot, ashes, &c.

A door, V, is provided on each side of the outer casing for the purpose of permitting free access to these removable caps for cleaning purposes.

The wrought-iron dome D and fire-pot C do not differ materially from those in general use.

A dust-flue, K, provided with a damper, m, leads from the top of the ash-pit to the chute L, and is intended to afford an escape for the dust when the fire is shaken down. The damper m, being opened, affords a free passage for the air from the ash-pit to the interior of the dome above the fire, whereby the dust is drawn upward into shield T and outward through the radiator-flue to the exit-pipe H. Said exit-pipe is provided with a suitable damper, I.

The duct P, located at the bottom of the outer casing, admits the cold air which circulates around and over the interior heating and radiating surfaces, and the openings R at the top permit this air to be conveyed through suitable pipes to the apartments to be heated. In order that this air may contain the required moisture, a pan or water-reservoir, O, is provided at the bottom of the heating-chamber.

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

5 The combination, with a heating-furnace having a dome above the fire-pot and an interior shield, of the tubular spiral radiator opening into the lower part of the dome with-

in the shield, substantially as and for the purpose set forth.

MIRON HALLY JACOBS.

Witnesses:

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