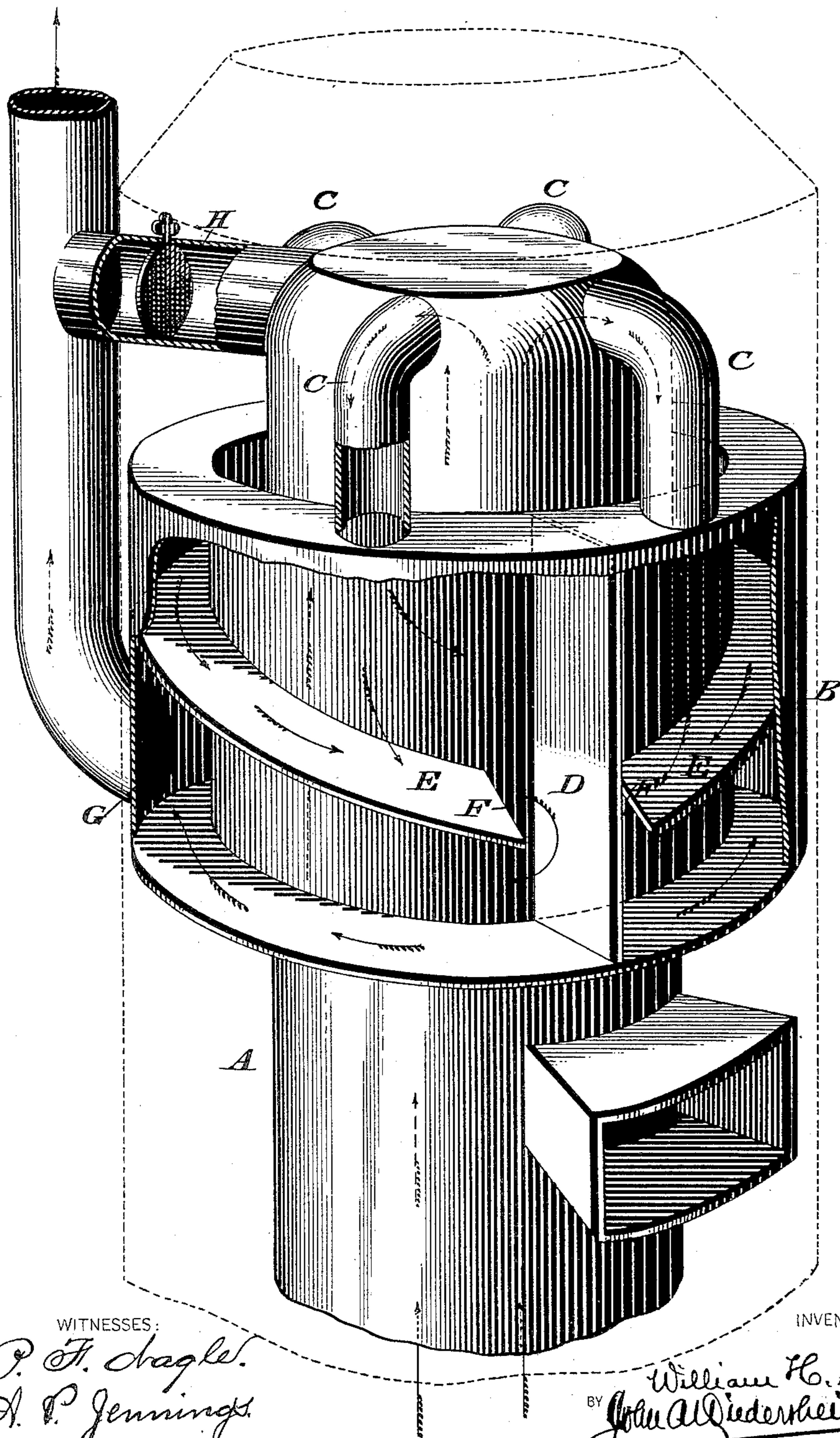


(No Model.)

W. H. STRANG.  
FURNACE.

No. 424,737.

Patented Apr. 1, 1890.



# UNITED STATES PATENT OFFICE.

WILLIAM H. STRANG, OF CAMDEN, NEW JERSEY.

## FURNACE.

SPECIFICATION forming part of Letters Patent No. 424,737, dated April 1, 1890.

Application filed May 23, 1889. Serial No. 311,766. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. STRANG, a citizen of the United States, residing in the city and county of Camden, State of New Jersey, have invented a new and useful Improvement in Furnaces, which improvement is fully set forth in the following specification and accompanying drawing.

My invention consists of a furnace provided with means whereby the products of combustion are so directed as to obtain the greatest amount of heat, said means being hereinafter fully set forth and definitely claimed.

The figure represents a perspective view, partly broken away, of a furnace embodying my invention.

Referring to the drawing, A designates the fire-chamber of a furnace, and B designates a drum of the form of an annulus surrounding said chamber, with an air-space between them.

C designates flues, which are connected with the dome of the chamber A and top wall of the drum B, thus forming a communication between said dome and drum. Within the drum at the front thereof is a vertical partition D and also a horizontal flange E, preferably of spiral form, the latter continuous around the chamber formed by the drum, and having its terminations or ends at the lowest point of the flange adjacent to the partition D, leaving passages F between said partition and ends.

It will be seen that the products of combustion from the chamber A enter the dome thereof, then descend through the flues C, said products being divided by the flues C and entering the drum above the flange E, from whence they pass downwardly over the flange in different currents until they reach the passages F, when they enter the chamber of the

drum below the flange and pass rearward thereunder to the exit-flue G, it being seen that the products of combustion traverse a long distance, owing to the chamber A, the flues C, and the upper and lower chambers of the drum, the passage through the drum being alternately in reversed order. By this provision a long heating-surface is presented, and large volumes of heat are thereby obtainable without materially complicating the construction of the furnace and increasing the expense thereof.

Connected with the dome of the chamber A is a pipe H, for a direct draft from said dome when so required.

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

1. In a furnace, the hot-air drum A, communicating with the fire-chamber of the furnace and having the vertical partition D and the flange E, the latter having passages between its ends and the said partition, whereby a doubled air-passage is formed within the drum, said parts being combined substantially as described.

2. The fire-chamber A, in combination with the drum B, surrounding the same, the flues C, leading from the chamber A to the top of the drum, and an outlet G in the drum, the said drum having the vertical partition D, and the horizontal flange E therein, the said flange having the passage F between its end and the partition D, and the said outlet G leading from below the flange in the drum, substantially as and for the purpose set forth.

WILLIAM H. STRANG.

Witnesses:

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