

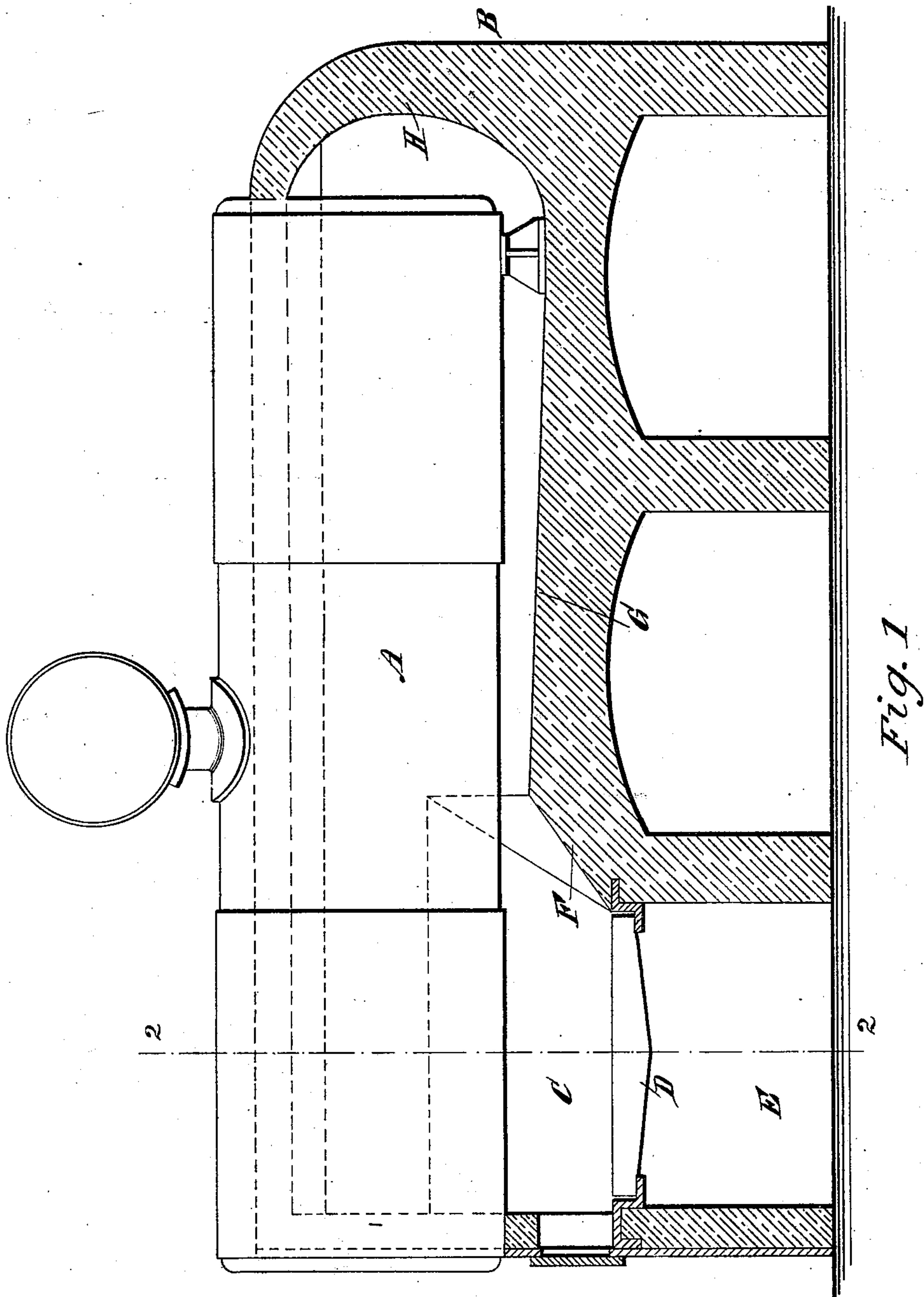
(No Model.)

2 Sheets—Sheet 1.

H. T. DIECK.  
FURNACE.

No. 560,978.

Patented May 26, 1896.



WITNESSES:

J. B. Walker  
Geo. G. Hester

INVENTOR

H. T. Dieck  
BY Munn & Co  
ATTORNEYS.

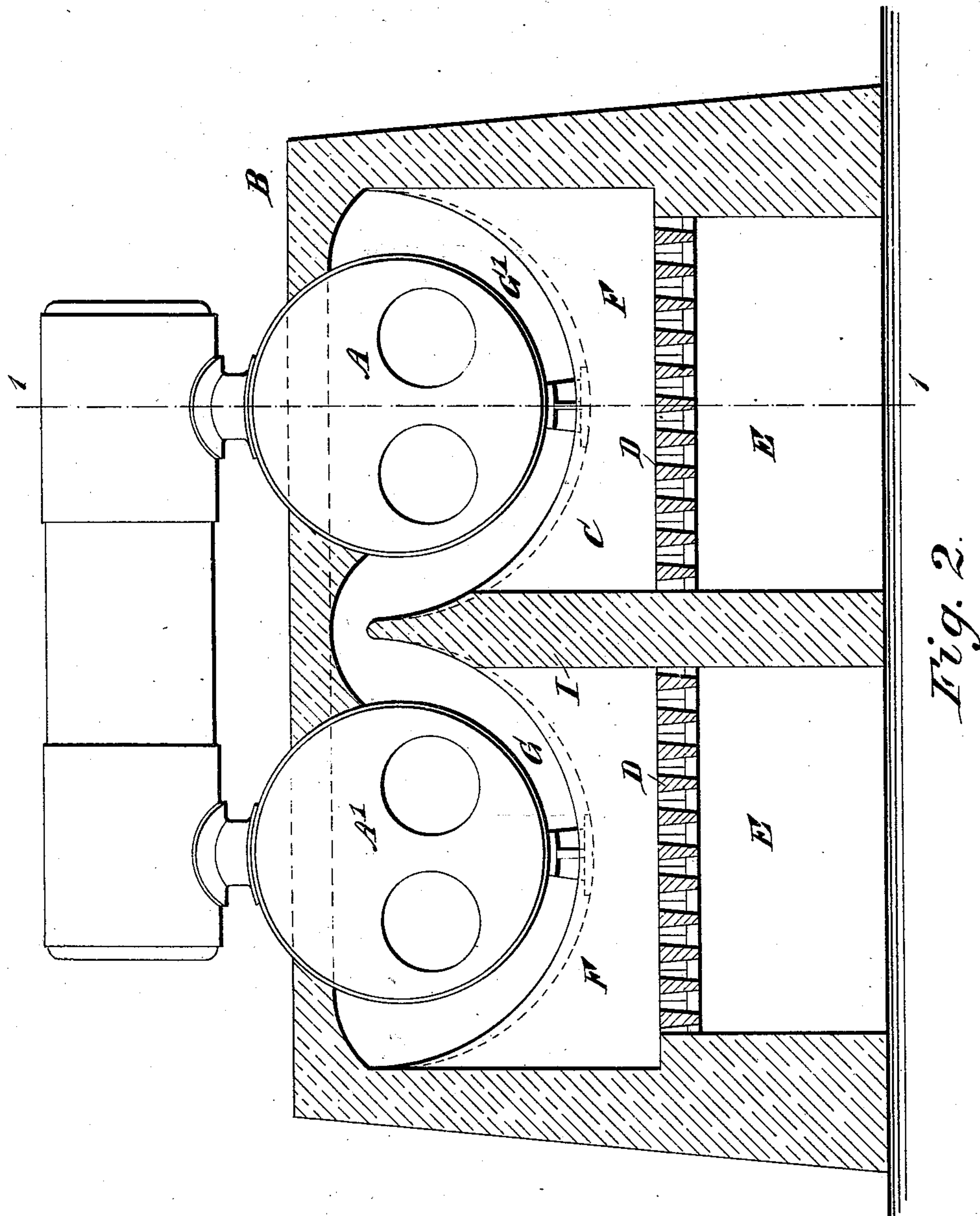
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# UNITED STATES PATENT OFFICE.

HENRY THEODORE DIECK, OF NEW ORLEANS, LOUISIANA.

## FURNACE.

SPECIFICATION forming part of Letters Patent No. 560,978, dated May 26, 1896.

Application filed October 4, 1895. Serial No. 564,618. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY THEODORE DIECK, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Furnace, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved furnace which is simple and durable in construction and arranged to obtain a large heating-surface, to utilize the burning fuel to the greatest advantage, and to insure at all times a proper draft.

The invention consists principally of a segmental flame-bed eccentric to the boiler-shell and inclined downwardly and rearwardly from the bridge-wall.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional side elevation of the improvement on the line 1 1 of Fig. 2, and Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1.

The furnace, as illustrated in the drawings, is provided with two boiler-shells A and A'; but the furnace may be constructed with only one shell or with more than two shells, if desired. The shells A and A' are arranged horizontally in the brickwork D, and a fire-box C is arranged under the front end of each shell, together with a grate D and ash-pit E. The bridge-wall F at the rear of the grate E slants upwardly and rearwardly, and from this bridge-wall extends the flame-bed G G', made segmental in cross-section and having its top surface eccentric to the exterior surface of the shell A or A', the greater distance

between the flame-bed and shell being at the upper portion of the flame-bed. The flame-bed inclines downwardly and rearwardly from the bridge-wall F to connect at its rear end with the dished or concave back H, guiding the smoke and gases to the flues of the boiler-shell. The flame-bed extends upwardly on both sides of the shell to or above the shell-flues, so that a very large heating-surface is obtained, and as the space between the flame-bed and the shell increases rearwardly and upwardly provision is made for the proper expansion of the smoke and gases, thereby insuring a proper draft. When two or more boiler-shells are provided, they are separated by a longitudinal partition-wall I, as indicated in Fig. 2, which extends nearly to the top wall of the brickwork, the space above it providing communication between the adjacent flame-beds, so that the products of combustion from the two furnaces may mingle and equalize.

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

A furnace comprising a brickwork, a boiler-shell set within the furnace, a bridge-wall at the rear end of the fire-box and a flame-bed extended from said bridge-wall to the rear end of the boiler, the said flame-bed being concave in cross-section and eccentric to the boiler, the greatest space between the flame-bed and the boiler being at the sides of the boiler, the said flame-bed being also inclined downwardly and rearwardly from the bridge-wall, whereby the space between the flame-bed and boiler will gradually increase lengthwise of the boiler, substantially as specified.

HENRY THEODORE DIECK.

Witnesses:

H. WIEMANN,  
FREDERICK W. WARBURG.