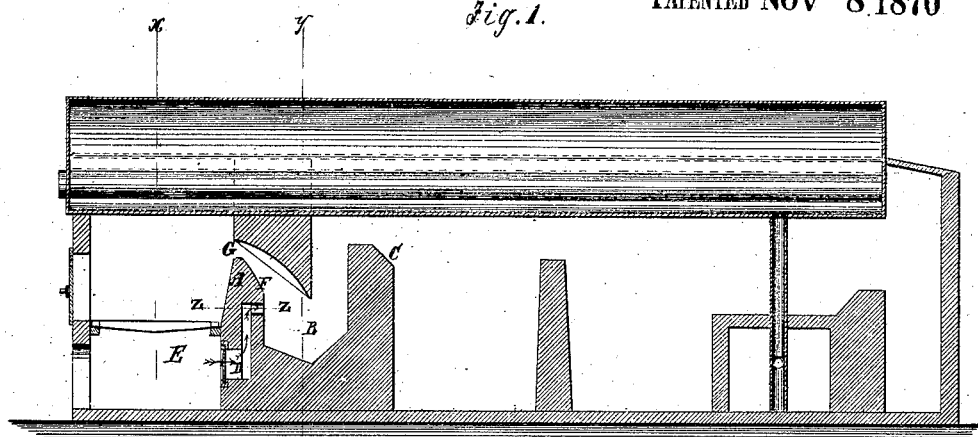
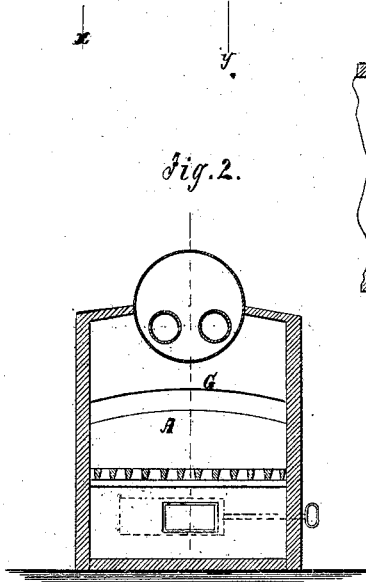


109039 *C. Neames. Setting Boilers.*

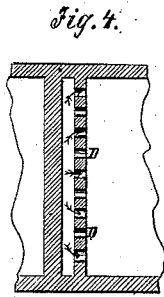
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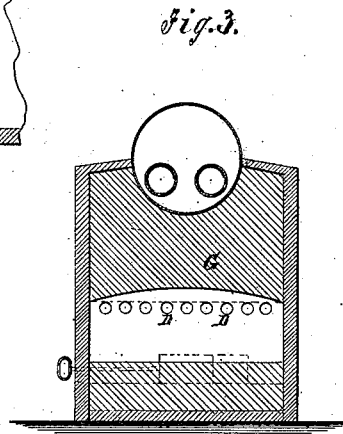
*Fig. 1.*



*Fig. 2.*



*Fig. 4.*



*Fig. 3.*

Witnesses.  
*A. Reynolds of*  
*S. J. Mabee*

Inventor:  
*C. Neames*  
 PER *Mmm*  
 Attorneys.

# United States Patent Office.

CHARLES NEAMES, OF NEW ORLEANS, LOUISIANA.

Letters Patent No. 109,039, dated November 8, 1870

## IMPROVEMENT IN SETTING BOILERS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, CHARLES NEAMES, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Setting Boilers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to flue-boilers, and my object is to insure a temperature of from 800° to 1000° Fahrenheit in the combustion-chamber, to ignite the coal-gases effectually.

To accomplish this purpose, I interpose between the boiler, whose temperature never rises above 350°, or thereabout, and the avenue through which the air reaches the combustion-chamber, a downwardly-projecting arch.

By this means the requisite degree of heat to burn the gases may be obtained in half an hour, after which there will be no smoke.

Figure 1 is a longitudinal section of the brick-setting of a boiler arranged according to my invention.

Figure 2 is a transverse section taken on the line  $x$   $x$  of fig. 1;

Figure 3 is a section on the line  $y$   $y$  of fig. 1; and Figure 4 is a section on the line  $z$   $z$  of fig. 1.

Similar letters of reference indicate corresponding parts.

A is the bridge-wall at the rear of the fire-place, and

B, the chamber behind it, formed between the bridge-wall A and another one C.

D represents air-passages leading from the space E, below the grate, through the wall A, into the space B, the arrangement being such that the air issues from the bridge A, near the termination of the sloping side F, down which the product of combustion in the fire-place is caused to pass on the way to the chamber B, so that the combination of the air and the gases is effected as soon as they enter the chamber.

G represents the arch above and behind the bridge-wall A. This is built up against the boiler so as to protect it from the contact of the gases where they commonly come in contact with it, and it slopes downward at the rear, to cause them to mix with the air in the chamber B, where they are burned most completely, and the heat is given up to the boiler beyond.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The bridge-wall A, sloped at F, and having air-passage therethrough from under the grate, combined with a downwardly-sloped arch, G, fitting against the boiler, and the upwardly-projecting wall C, to form an independent chamber, B, wherein the air and gases are brought into contact, retarded, mixed, and burned, before passing up the smoke-pipe.

CHARLES NEAMES.

Witnesses:

JAMES MACKISON,  
GEO. GUINAULT.