

C. H. FOX.

Steam-Boiler Furnaces.

No. 135,106.

Patented Jan. 21, 1873.

Fig. 1.

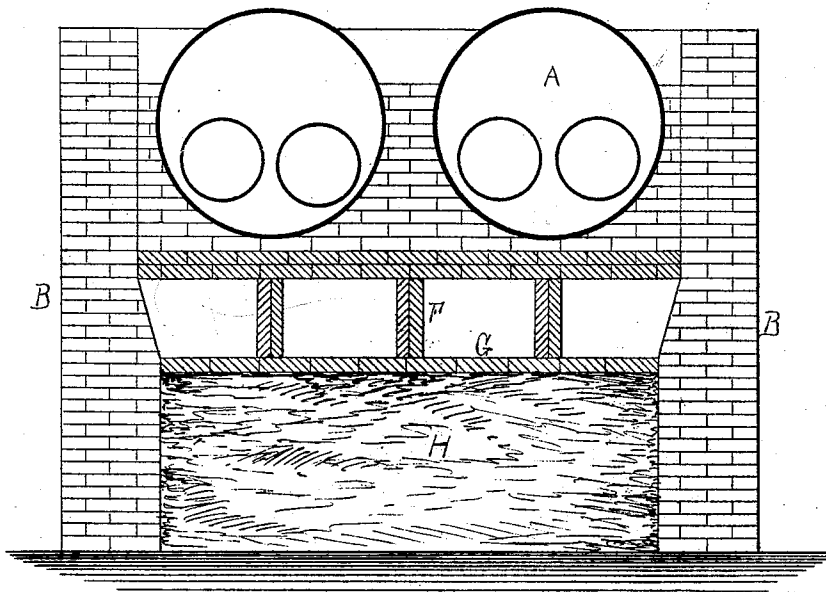
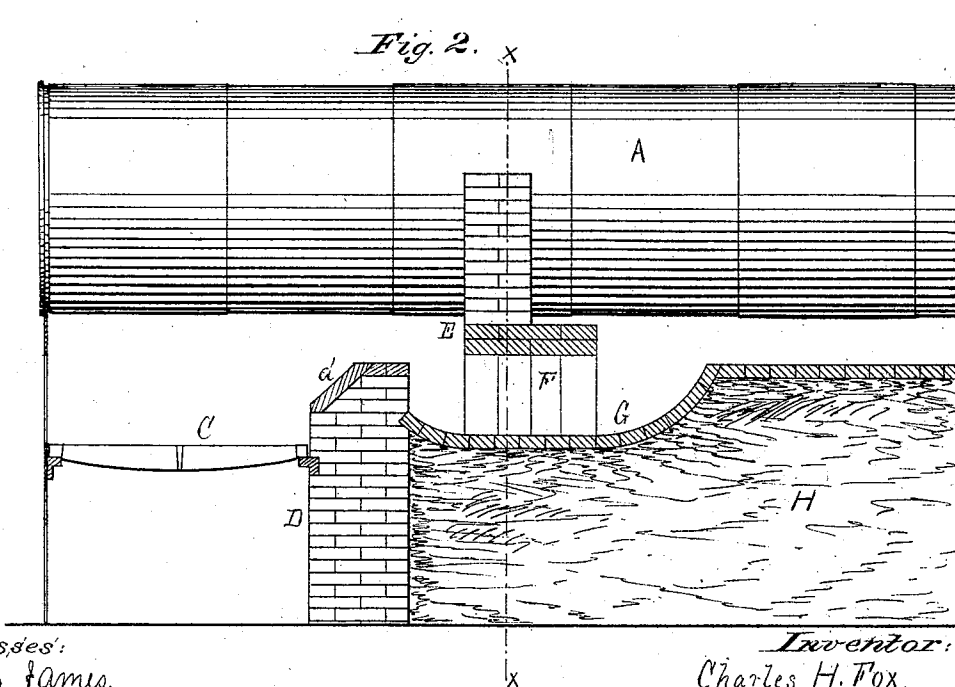


Fig. 2.



Witnesses:

Edwin James.

K. V. Gordon.

Inventor:

Charles H. Fox.
per J. E. & Holmead.
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES H. FOX, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN STEAM-BOILER FURNACES.

Specification forming part of Letters Patent No. 135,106, dated January 21, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. FOX, of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Steam-Boiler Furnaces, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing and the letters of reference marked thereon making part of this specification, in which—

Figure 1 is a vertical cross-section on the line *xx*, Fig. 2. Fig. 2 is a longitudinal section of Fig. 1.

This invention relates to an improvement in steam-boiler furnaces; and consists in supporting the deflector by tiles or columns in lieu of the pipes heretofore used, as I have found that in some localities where limestone-water is used very rapid incrustation is formed in the pipes, which would then be likely to burn and let the deflector fall, which is avoided by my invention.

This invention is an improvement on Letters Patent No. 123,882 and No. 131,871, granted to me, respectively, February 20, 1872, and October 1, 1872.

The construction and operation of my invention are as follows: A represents a flue-boiler of the ordinary construction, inclosed by the walls B B, as usual. C represents the grate-bars, supported by bearing-bars at each end. At the rear end of the grate-bars is the bridge-wall D, having its front side beveled off, as shown at *d*, and lined with fire-brick. At a short distance behind this bridge-wall is arranged the deflector E supported by the tiles or columns F, of which there may be as many as are desirable. These tiles are supported by the brick floor G, which is laid on the earth H. Immediately under the deflector E the said floor is curved or recessed to allow the

products of combustion to pass under the deflector, by which they are retarded in their passage along the boiler. There may be one or more deflectors, and they may be slightly arched from column to column, if desired; but I prefer to construct them flat and straight, as the heat and products of combustion are, by the flat ones, more evenly diffused along the surface of the boiler, while with the arched ones the fire and heat are concentrated along the center of the arch.

The great advantages of the deflectors supported by columns will be apparent to any one, as they may be arranged with or without the pipes; and the flat fire-brick deflector, retains the heat a long while and communicates it very uniformly to the boiler, not only in the center, as is the case with the arched deflectors, but to the side as well, and thereby the advantage of creating a better circulation of water in the boiler can be obtained, and, at the same time, said deflectors are stronger, and can be very easily repaired when out of order or damaged in any way.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The deflector E, in combination with the columns or supports F, when arranged substantially as and for the purpose set forth.

2. The arrangement of bridge-wall D with the deflector E, columns F, and curved floor G, all constructed substantially as shown, and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. FOX.

Witnesses:

W. B. TAFT,
CHAS. W. MURTFELDT.