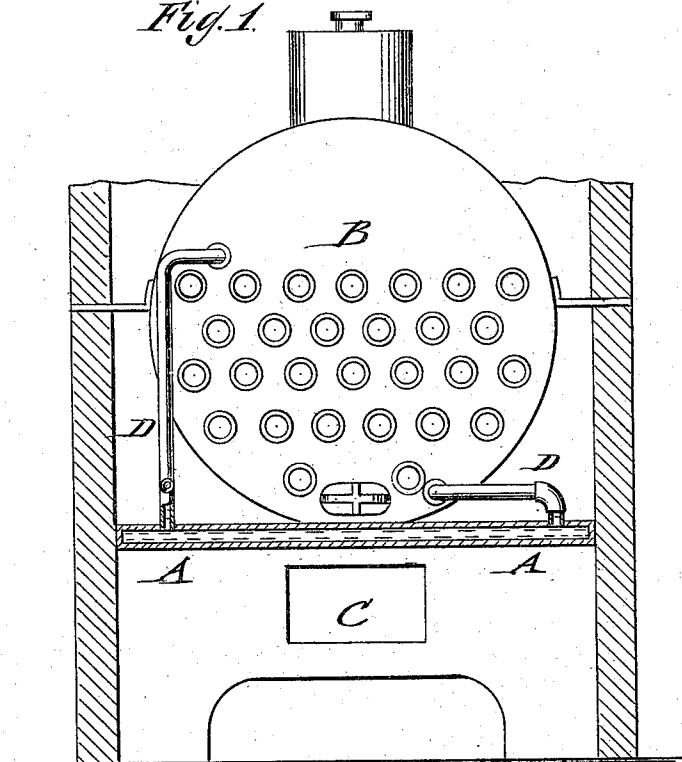


G. FOX & G. FOX Jr.  
ARCH-PLATES FOR STEAM-BOILERS.

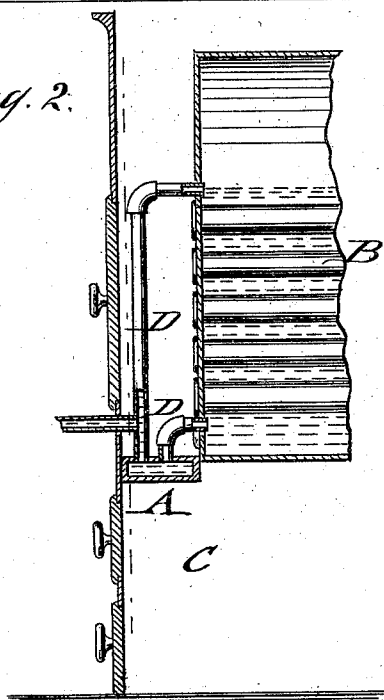
No. 173,852.

Patented Feb. 22, 1876.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE FOX AND GEORGE FOX, JR., OF NEW YORK, N. Y.

## IMPROVEMENT IN ARCH-PLATES FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. **173,852**, dated February 22, 1876; application filed January 3, 1876.

### *To all whom it may concern:*

Be it known that we, GEORGE FOX and GEORGE FOX, Jr., of the city, county, and State of New York, have invented a new and Improved Arch-Plate for Steam-Boilers, of which the following is a specification:

Figure 1 is a front elevation of a steam-boiler with our improved arch-plate shown in section, and Fig. 2 shows a vertical transverse section through boiler and arch-plates.

Similar letters of reference indicate corresponding parts.

The object of our invention is to provide, in place of the solid cast-iron arch-plate of steam-boilers, that is exposed to be burned through by the action of heat in the fire-box, an arch-plate of greater durability and resistance to the destructive influence of fire.

The invention consists of a hollow arch-plate connected to the boiler in such a manner that a constant circulation of water is kept up in the same.

In the drawing, A represents the arch-plate, which is arranged, in the usual manner, at the front part of the boiler B, above the fire-box C. The arch-plate A is made hollow, of cast or wrought iron, or pipes, or both combined,

as desired, and either straight, curved, or arched, to suit the purpose. The hollow arch-plate is connected by pipes D to the pump, to the lower part and water-level of the boiler, as shown in the drawing, for the purpose of producing a constant circulation of water, and preventing thereby the burning of the arch-plate.

The frequent repairs and replacing of the common cast-iron arch-plate are thereby prevented. The same construction of arch-plate may be applied to the end and sides of the boiler.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

In horizontal tubular boilers, the arch-plate that separates the front ends of the boiler-flues from furnace, made hollow, and adapted to produce a circulation of water between the boiler and the arch-plate, as and for the purpose specified.

GEORGE FOX.  
GEORGE FOX, JR.

Witnesses:

PAUL GOEPEL,  
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