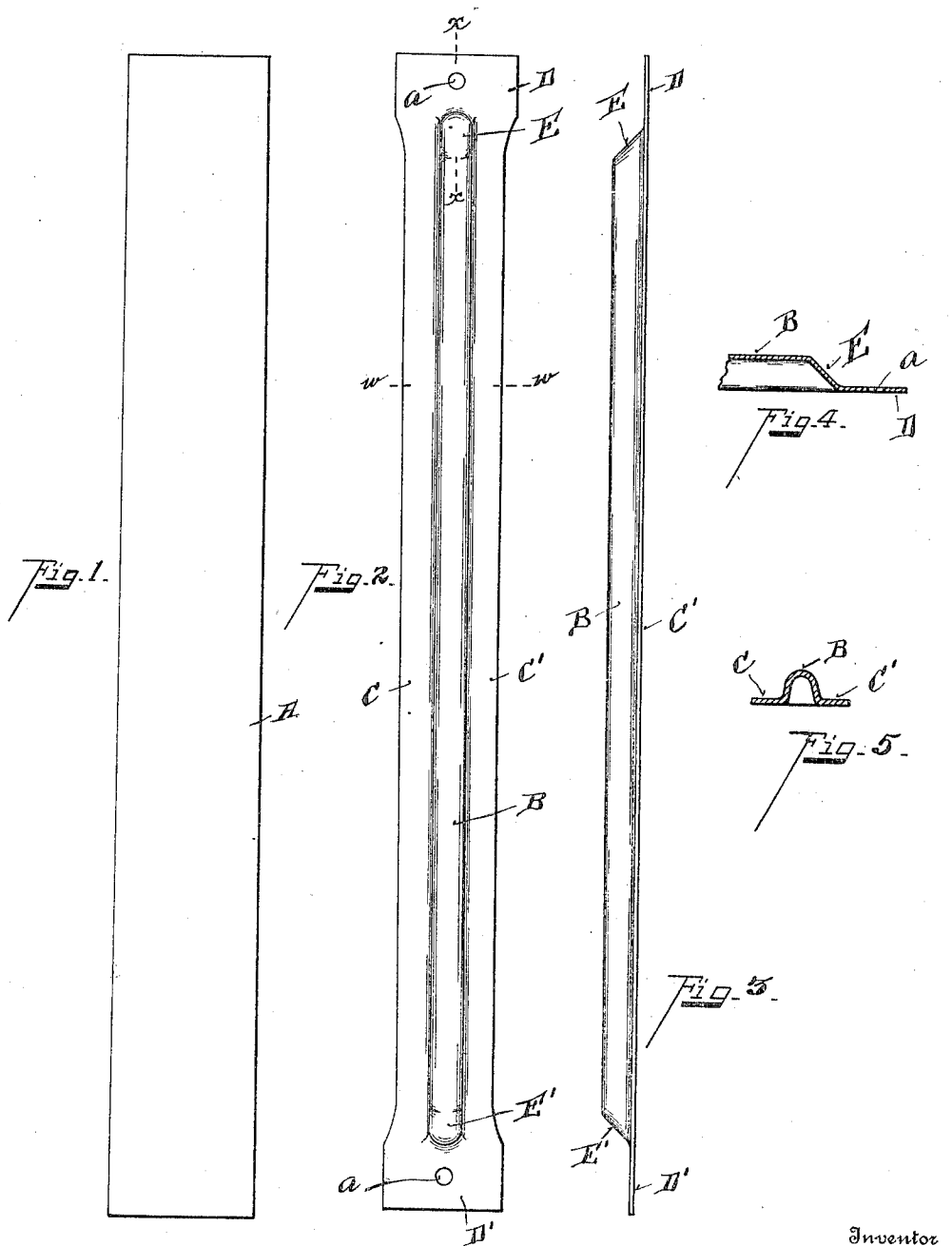


No. 811,003.

PATENTED JAN. 30, 1906.

C. E. TUDOR.
TIE PLATE FOR FURNACES.
APPLICATION FILED NOV. 13, 1905.



Witnesses
Oliver B. Kaiser
Leo O'Donnell

Inventor
Charles E. Tudor
By *Wood & Wood*
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES E. TUDOR, OF CINCINNATI, OHIO, ASSIGNOR TO THE TUDOR BOILER MANUFACTURING COMPANY, OF CINCINNATI, OHIO, A CORPORATION.

TIE-PLATE FOR FURNACES.

No. 811,003.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed November 13, 1905. Serial No. 287,163.

To all whom it may concern:

Be it known that I, CHARLES E. TUDOR, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Tie-Plates for Furnaces, of which the following is a specification.

My invention relates to a tie-plate for boiler-furnaces.

The object of my invention is to make a tie-plate struck up from a single blank of such form as to make the same light in weight and very efficient and in which the resistance to bending strains is materially increased.

The features of my invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of the blank from which the tie-plate is made. Fig. 2 is a plan view of the tie-plate in its finished form. Fig. 3 is a side elevation of the same. Fig. 4 is a section on line *x x*, Fig. 2. Fig. 5 is a section on line *w w*, Fig. 2.

The tie-plate herein shown is struck up from a plate of metal having the central portion thereof forming a curved hollow arch in cross-section and terminating in plane faces at the sides and ends, retaining the same thickness of metal throughout.

A represents the blank from which the tie-plate is formed.

B represents the arch-brace formed in the center of the blank.

C C' represent the marginal faces upon each side of the arch-brace forming abutments which rest against the wall of the boiler-furnace.

D and D' represent the end marginal plane faces of the plate.

E E' represent the sloping ends of the arch-brace, which is of hollow formation for this purpose. These plain marginal ends enable the plate to abut the furnace its entire width, which materially strengthens the plate and prevents any tendency of the metal to open out.

a represents holes drilled or pierced in the marginal ends, through which the tie-rods pass for bolting the same in position against the furnace-wall.

A tie-plate as herein shown and described is very strong. The arch-brace formation in the central portion thereof provides rigidity to the plate, enabling the same to be made of comparatively thin metal.

Having described my invention, I claim—

A furnace tie-plate formed integral from a metal blank, having an arch-brace struck up in the central portion thereof, terminating at the sides and ends in plane marginal faces, substantially as described.

In testimony whereof I have hereunto set my hand.

CHARLES E. TUDOR.

Witnesses:

OLIVER B. KAISER,
LEO O'DONNELL.