(No Model.)

E. C. FOX.

CEMENT RING FOR HOT AIR FURNACES.

No. 534,145. Patented Feb. 12, 1895.

Fig. 1

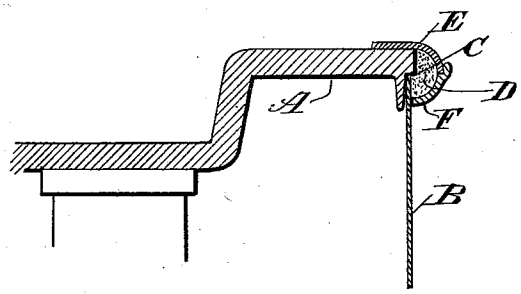


Fig. 2.

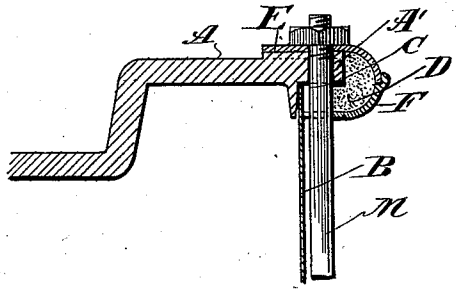
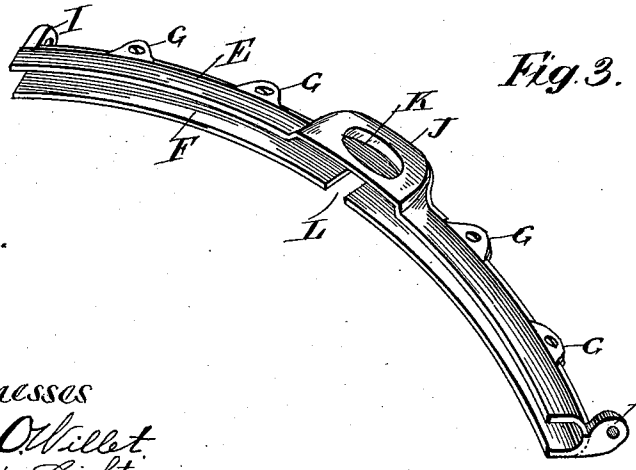


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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CEMENT RING FOR HOT-AIR FURNACES.

SPECIFICATION forming part of Letters Patent No. 534,145, dated February 12, 1895.

Application filed April 28, 1894. Serial No. 509,420. (No model.)

To all whom it may concern:

Be it known that I, ERNEST C. FOX, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Cement Rings for Hot-Air Furnaces, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in warm air furnaces, and the object is to provide a seal for gas or other products of combustion between the joints of the composite materials forming the inner shell of the furnace, to prevent the escape of noxious gases or smoke into the air chamber and flues.

My invention consists in the application of a cement ring to the joints most liable to remain open, and in the means for retaining the same closely in contact therewith, as hereinafter described, shown in the accompanying drawings and more specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical section through cast iron top of furnace, and steel radiator shell, showing cement ring and annular retaining plates. Fig. 2 is a similar section through retaining bolts. Fig. 3 is a perspective view of a section of the annular retaining plates.

In the drawings A is the top furnace plate of cast iron.

B is the steel radiator plate at the side of the furnace.

C is the shoulder into which said steel plate fits.

D is the cement ring.

E and F are concave annular plates fitting over the edges of the top and side furnace plates and curved to form a retaining trough for the cement ring D. These plates are secured together by lugs and screws G and H, and the sections by terminal lugs I connected by bolts.

An enlargement J serves to inclose the lugs A′ upon the cast iron top plate A, and slotted openings K and L in the annular plates permit the passage of the holding bolts M connecting top and bottom of furnace.

Hitherto the disadvantage found in steel plate radiator furnaces has been that a tight joint between the steel plate and cast iron top could not be made, on account of the difficulty in fitting the rough castings to the steel, and dangerous gases might be permitted to escape into the air chamber. The cement ring entirely overcomes this objection, and can be readily secured about the joint and held in place as shown while serving to bind the furnace and assist in securing the top plate to the side radiator plate. I believe myself to be the first to employ a cement ring for this purpose.

I do not confine myself in this invention to the application of the ring to any particular joints in the furnace, or to a cylindrical furnace, since it could be equally well applied to other shapes of furnace.

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

In a hot air furnace the combination with a cast iron top plate and steel radiator side plate of a cement ring inclosing the joint between said plates, and means for securing the cement ring in position and for binding the plates together, consisting in sectional concave plates clamped over said furnace joint and cement ring, substantially as set forth.

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