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G. F. LENK

FURNACE ROOF CONSTRUCTION

Filed Jan. 8, 1926

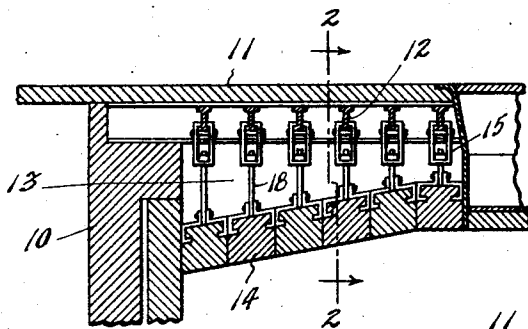


*Fig. 1.*

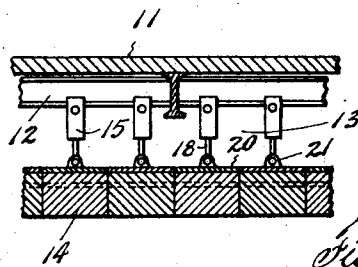


*Fig. 2.*

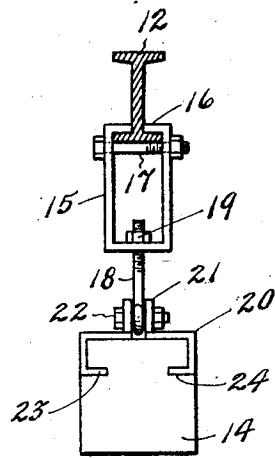


*Fig. 3.*

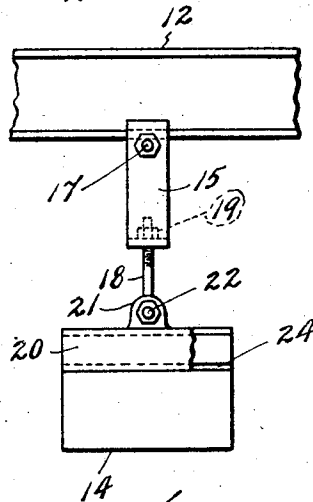


*Fig. 4.*

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## UNITED STATES PATENT OFFICE.

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## FURNACE-ROOF CONSTRUCTION.

Original application filed August 1, 1924, Serial No. 729,652. Divided and this application filed January 8, 1926. Serial No. 79,948.

This invention relates to new and useful improvements in furnace roof constructions.

The object of the invention is to provide a suspended fire arch with an air space above said arch.

A particular object of the invention is to provide a fire arch of blocks individually suspended, whereby a burn-out may be readily replaced.

A further object of the invention is to dispose the block hangers in the air space, whereby they are protected from the heat of the burning chamber and are readily accessible.

Another object of the invention is to mount the blocks in their hangers so that each block may be easily removed from its hanger and quickly replaced.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Fig. 1 is a transverse sectional view of a portion of a roof construction in accordance with my invention,

Fig. 2 is a partial longitudinal sectional view of the same,

Fig. 3 is an end elevation of one of the blocks and its hanger, and

Fig. 4 is a side elevation of the same.

In the drawings the numeral 10 designates a portion of the walls of the burning chamber of an incinerator, such as is shown in my Letters Patent No. 1,558,682, issued October 27, 1925, of which the present application is a division. The roof of the chamber is composed of a top or floor slab 11, a plurality of longitudinal beams 12, an air space 13 and individual blocks 14 under the air space 13 and individual blocks 14 under the air space forming the fire arch of the burning chamber.

The beams 12 are suitably mounted immediately under the floor 11 and support the same. For suspending each block 14 a num-

ber of structures suggest themselves and I have secured good results with a hanger comprising an angular U-shaped clip 15 having inwardly directed lip 16 at its upper end engaging over the base flange of the beam 12 on each side of the web. The clip is held in place by a cross bolt 17.

An eye bolt 18 depends from the center of the bottom of the clip and is supported by a nut 19 resting on the clip. Parallel angle clamp bars 20 have upstanding ears 21 at their inner central portions and the eye of the bolt 18 is engaged between said ears on a bolt 22 carried by the ears. The clamp bars are countersunk in the upper portion of the block 14 and each bar has an inwardly directed longitudinal flange 23 engaging in a groove 24 in the side of the block. The bars lie substantially flush or below the side surface of the block and this permits ample mortar joints between said blocks.

It will be seen that the blocks are cubular and are of such size as to be readily handled. The nuts 19 are adjusted to bring the under sides of the blocks into the proper position. The upper and lower surfaces of the blocks may be inclined or horizontal as is shown in Fig. 1. The blocks are made of fire clay and should one or more burn out, the nut 19 of each bolt of the block hanger is removed whereby the block may be lowered through the arch. Upon removing the bolt 22, the block 14 may be removed from the clamp bars 23 and replaced with a new block. The new block may be inserted and the arch thus quickly repaired.

Various changes in the size and shape of the different parts, as well as modifications and alterations may be made within the scope of the appended claim.

What I claim, is:

The combination with a plurality of spaced parallel flanged beams, of a plurality of roof block hangers each carrying a single block and each comprising an upright angular U-shaped clip having its upper ends engaging over the bottom flanges of one of the beams and a bolt passing transversely through the clip immediately under said beam for pre-

venting vertical displacement of the clip and  
for confining it on the beam, each hanger  
also comprising an eye bolt depending from  
the lower end of the clip and supported by  
5 a nut within the clip, a pair of parallel  
angular clamp bars having adjacent gears  
at their center between which the eye bolt is

pivoted, the clamp bars extending along each  
side in the upper portion of each block and  
over the top of said block, whereby said 10  
block is suspended from its sides and not  
from its top.

In testimony whereof I affix my signature.

GUS F. LENK.