April 1, 1924. 1,488,798

W. F. SCHALLER

INSULATED WALL FOR OVENS AND THE LIKE

Original Filed Jan. 7, 1921

Fig. 1.

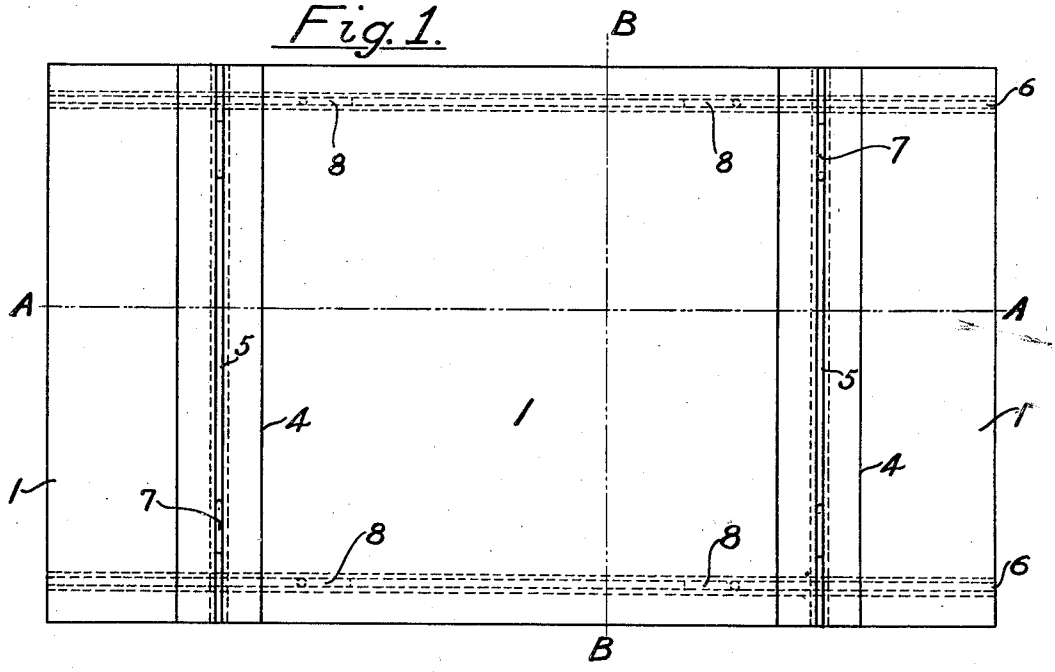


Fig. 2.

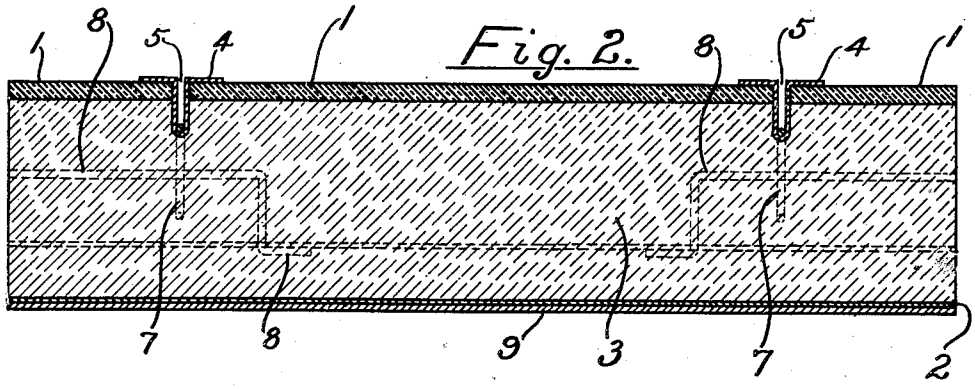
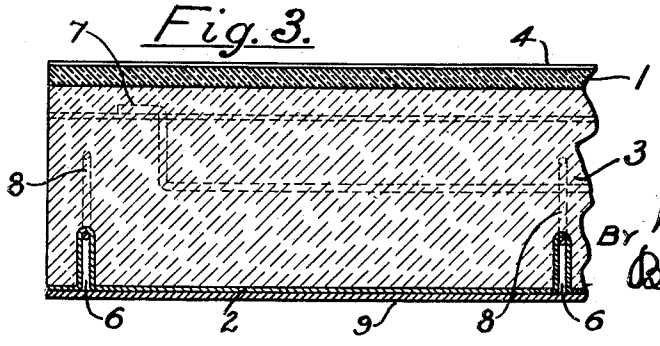


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM F. SCHALLER, OF SAN FRANCISCO, CALIFORNIA.

INSULATED WALL FOR OVENS AND THE LIKE.

Application filed January 7, 1921, Serial No. 435,771. Renewed November 26, 1923.

To all whom it may concern:

Be it known that I, WILLIAM F. SCHALLER, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in an Insulated Wall for Ovens and the like, of which the following is a specification.

My invention relates to improvements in an insulated wall for ovens and the like, such as furnaces and driers; and the object of my invention is to provide a wall structure that is practically a non-conductor of heat, and yet a wall of light weight and of strong and simple construction.

I attain this object by the method of construction shown in the accompanying drawing, in which—

Figure 1 is an elevation of a portion of my insulated wall; Fig. 2, a transverse section taken at line A—A, Fig. 1; Fig. 3, a partial cross section taken at line B—B, Fig. 1.

Referring to the drawing, 1 denotes the inner layer, 2 the outer layer and 3 a refractory filler of non-conductive material. U-shaped strips 4, the width of the wall, connect the several portions of the inner layer 1, the recessed part of the strip 4 being denoted by 5. Similar recessed parts 6 also are formed in the outer layer 2. Bent wires 7 go through apertures in the recessed parts 5 to serve as binding means to hold the strips 4 and the inner layer 1 to the refractory filler 3. Bent wires 8 go through apertures in the recessed parts 6 to serve as binding means to hold the outer layer 2 to the refractory filler 3. It will be noticed that the bent wires 7 and 8 do not touch each other, and hence by my construction there is no radiation of heat, due to metallic connections, from the inner layer 1 to the outer layer 2. The strips 4 are placed in a different plane to the bent recessed parts 6, preferably at ninety degrees, to stiffen or brace the wall.

A facing of enameled metal or other material 9 is fastened to the outer layer, for appearance's sake.

In construction, the inner layer 1 of my insulated wall is composed of a tough non-conducting material, preferably asbestos board. The outer layer 2 is composed of a metallic substance to give strength to the structure. The refractory filler 3 is composed of a layer, or several layers cemented together, of a suitable refractory material of very high insulating quality as well as a non-conductor of heat. The inner layer 1 and the outer layer 2 are securely fastened to the refractory filler 3. The binding wires 7 and 8 serve to fasten the inner layer 1 and the outer layer 2 to the refractory filler 3, and to eliminate radiation the wires 7 and 8 must not touch each other.

Various changes may be made in the arrangement and details of my invention without departing from the spirit of my invention as set forth in the following claims.

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

1. An insulated wall for ovens and the like comprising an inner layer of non-conducting asbestos board, an outer metallic layer, and a refractory filler of insulating material cemented to said inner layer and said outer layer substantially as described.

2. An insulated wall for ovens and the like comprising an inner layer of thin non-conducting asbestos board, an outer metallic layer, a refractory filler of insulating material cemented to said inner layer and said outer layer, metal binding strips to hold said inner layer and binding wires passing through the metal strips and imbedded in the refractory filler to hold said inner layer and said refractory filler together, the metal and binding wires on both sides of the wall being protected by the refractory material from the transfer of heat through the wall.

3. An insulated wall for ovens and the like, comprising an inner layer of thin non-conducting asbestos board, an outer layer of metallic substance, a refractory filler of insulating material, and means to hold said inner layer and said outer layer substantially to said refractory filler, there being no metallic communication between the said inner layer and the said outer layer.

4. An insulated wall for ovens and the like, comprising an inner layer of thin non-conducting asbestos board, an outer layer of metallic substance, a refractory filler of insulating material, said inner layer and said outer layer being cemented to said refractory filler, and metal binding strips to hold said inner layer to said refractory filler.

5. An insulated wall for ovens and the like comprising an inner layer of non-con-

ducting asbestos board, an outer metallic covering, a refractory filler of insulating material, means to hold said inner layer and said outer covering in contact with said refractory filler, the metal on both sides of the wall being protected from the transfer of heat therethrough by the refractory filler.

6. An insulated wall for ovens and the like, comprising an inner layer of thin non-conducting asbestos board, an outer layer of metallic substance, a refractory filler of insulating material, metal binding strips inserted in the inner layer, U-shaped recessed parts bent in the outer layer, bent binding wires passing through the said metal binding strips and imbedded in the refractory filler to hold said inner layer to said refractory filler, and bent binding wires passing through said U-shaped recessed parts bent in the outer layer and imbedded in the said refractory filler to hold said outer layer to said refractory filler.

In testimony whereof I affix my signature.

WILLIAM F. SCHALLER.