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2,949,643

METHOD OF CO-MOULDING BRICK

Filed Jan. 27, 1958

FIG. 1

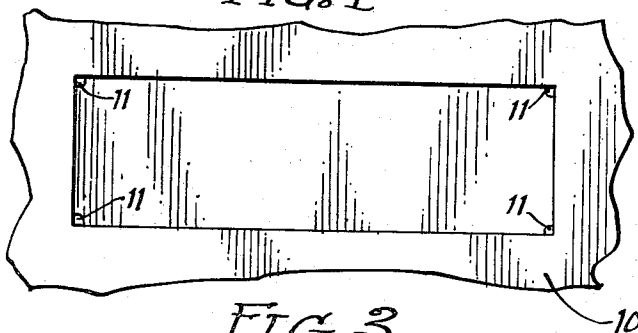


FIG. 2

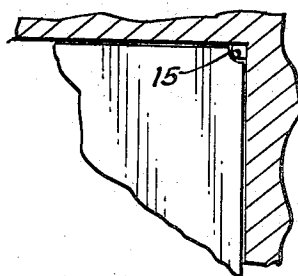


FIG. 3

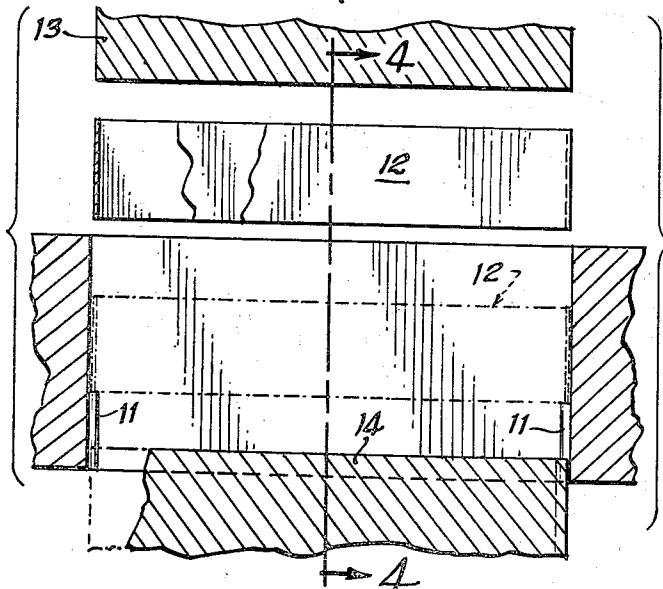


FIG. 4

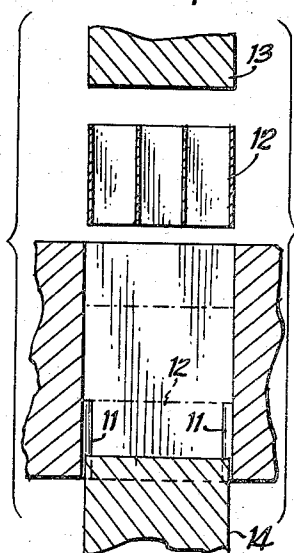


FIG. 5

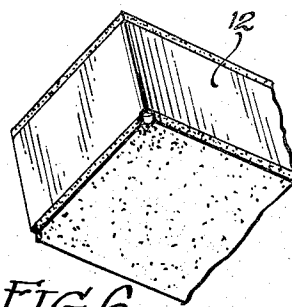
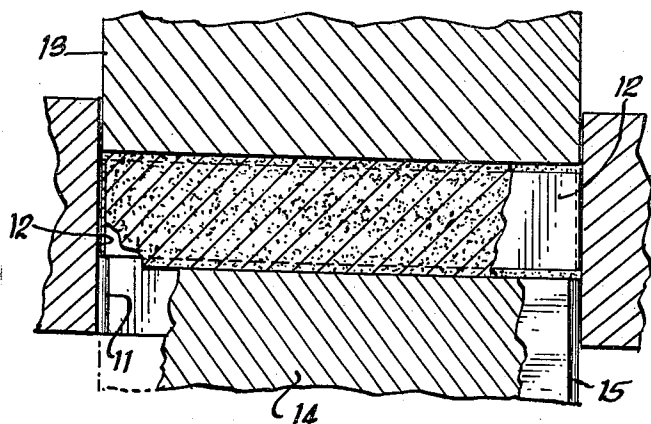


FIG. 6

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1

2,949,643

METHOD OF CO-MOULDING BRICK

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5 Claims. (Cl. 18—59)

My invention relates to co-moulded brick, that is, brick composed of basic refractory material combined with oxidizable metallic elements. It has been customary to associate basic material with oxidizable partitions or covers which coalesce with the basic material. It has been customary to move such oxidizable material as the brick is being compressed into final brick form. This movement of the oxidizable material has a great tendency to distort it as the basic material is compressed into the brick form by the agency of suitably mounted plungers operating within a mould. My invention concerns itself with eliminating these distortional features and to that extent consists of a method whereby the oxidizable material is mounted in the mould prior to the introduction of the basic material, this being a continuation in part of my application Serial No. 638,148, filed February 4, 1957, on Method of Co-Moulding Brick. Suitable means are provided in the mould to hold the oxidizable material in that position which it is intended to occupy in the finished brick. I will describe my invention more in detail by referring to the accompanying drawing in which:

Fig. 1 is a top view of an empty mould, the upper plunger not being shown;

Fig. 2 is an enlarged cross-sectional view showing the lower plunger, the outline of the mould and suitable supporting means for the oxidizable material;

Fig. 3 shows the two plungers, the oxidizable material and the means within the mould to hold the oxidizable material at its final resting position in the completed brick;

Fig. 4 is a sectional view on line 4—4 of Fig. 3;

Fig. 5 shows the two plungers as having been forced into their final positions to form the finished brick, portions being broken away to show the oxidizable material in place, and

Fig. 6 is a fractional view of the completed brick.

In the drawing 10 represents a mould provided at one or more of its corners with a stop 11. This stop is adapted to receive an oxidizable element 12 prior to filling the mould with basic material. The oxidizable material 12 is a metal framework of any suitable shape of which portions thereof may be on the outside of the finished brick and certain parts within the finished brick. This mould cooperates with two plungers 13 and 14, the lower plunger being 14. In the operation of my improved method the framework 12 is mounted in place in the empty mould upon the stops or shelves 11. When thus mounted it is at the position which it is to occupy in the finished brick. After the framework has been mounted in position, the mold is filled with basic material extending from the top of the lower plunger 14 to the upper edge of the mould. Thereupon the two plungers are moved toward one another to compress the material into final brick form, the oxidizable framework remaining in the position it had originally occupied and relatively to the compressed brick. The oxidizable material may have the same height as the width of the finished

2

brick or may be of any lesser size. In fact it may be desirable that the width of the oxidizable framework is no more than one-half of the width of the finished brick. It will be seen from what has been described that when the framework has been put in its final position before filling the mould that the framework will not be distorted by compression of the brick material, as would be the case if there were a movement of this framework brought on by pressure from the material as it is being compressed or in such cases where the framework is forced into the material during compression.

It will, of course, be understood that the framework does not need to completely surround the brick unless such is the desire, but that any sort of framework may be used which accomplishes the purpose of coalescing in the proper places with the basic material.

The lower plunger 14 has cut-away portions at 15 in Fig. 2 so as to clear the stops 11. It is best to move both plungers at the same speed and through the same distance.

From what I have thus described, it is thought my invention will be clear to those skilled in the art, also that many modifications may be made thereof without departing from its spirit. What I therefore claim is new and desire to secure by Letters Patent is:

1. The method of co-moulding basic refractory material with a self sustaining metallic structure including inner members positioned internally of the finished brick, which consists in mounting and holding said metallic structure in a mould below the top edge of and in spaced relation to the bottom of the mould cavity, with the members of said structure extending perpendicularly to said bottom and with said inner members held in spaced relation to each other and to the sides of said mould, filling said mould cavity with said refractory material below, between and above said members, and compressing said refractory material into finished brick form toward and between the members of said metallic structure from both above and below said structure.

2. The method of co-moulding basic refractory material with a metallic framework including inner members positioned internally of the finished brick, which consists in mounting and holding said framework in a mould below the top edge of and in spaced relation to the bottom of the mould cavity with the members of said framework extending perpendicularly to said bottom and said inner members held in spaced relation to each other and to the sides of said mould, filling said mould cavity with said refractory material below, between and above said members, and compressing said refractory material into finished brick form toward and between the members of said framework from both above and below said framework.

3. The method of co-moulding basic refractory material with a self sustaining metallic structure including inner members positioned internally of the finished brick, which consists in mounting and holding a self sustaining metallic structure of less depth than said mould and having inner and outer members in a mould midway between the top and bottom of the mould cavity with the members of said structure extending perpendicularly to said bottom and said inner members spaced from the sides of said cavity, filling said mould cavity with said refractory material below, between and above the members of the metallic structure and compressing said refractory material into finished brick form toward and between the members of said metallic structure from both above and below said structure.

4. The method of co-moulding basic refractory material with a metallic framework including inner members positioned internally of the finished brick, which consists in mounting and holding a metallic framework

3

of less depth than said mould and having inner and outer frame members in a mould midway between the top and bottom of the mould cavity with the members of said framework extending perpendicularly to said bottom and said inner members spaced from the sides of said cavity, 5 filling said mould cavity with said refractory material below, between and above the members of said framework and compressing said refractory material into finished brick form toward and between the members of said metallic framework from both above and below said 10 framework.

5. In the method of co-moulding basic refractory material with metallic oxidizable material to produce a brick having an elongated body portion of said basic refractory material having a pair of elongated flat plate-like members of said metallic oxidizable material embedded therein in spaced relation to each other and to all the side faces of said brick, holding said pair of plate-like members in a mould cavity in spaced relation to the top,

4

sides and bottom of said mould and in spaced relation to each other in a position with the width thereof perpendicular to the bottom of said mould, filling said mould cavity with said basic refractory material between, above and below the said plate-like members while holding said plate-like members in said position in said mould cavity and compressing said refractory material into finished brick form toward and between said plate-like members by forces acting edgewise of said plate-like members both from above and below the same.

References Cited in the file of this patent

UNITED STATES PATENTS

835,175	Bemis	Nov. 6, 1906
1,733,610	Leipert	Oct. 29, 1929
2,247,376	Heuer	July 1, 1941
2,673,373	Heuer	Mar. 30, 1954
2,764,887	D'Ambly	Oct. 2, 1956