July 15, 1952 F. E. OWEN 2,602,984

CERAMIC TILE SUPPORT

Filed Feb. 1, 1951

Fig. 1.

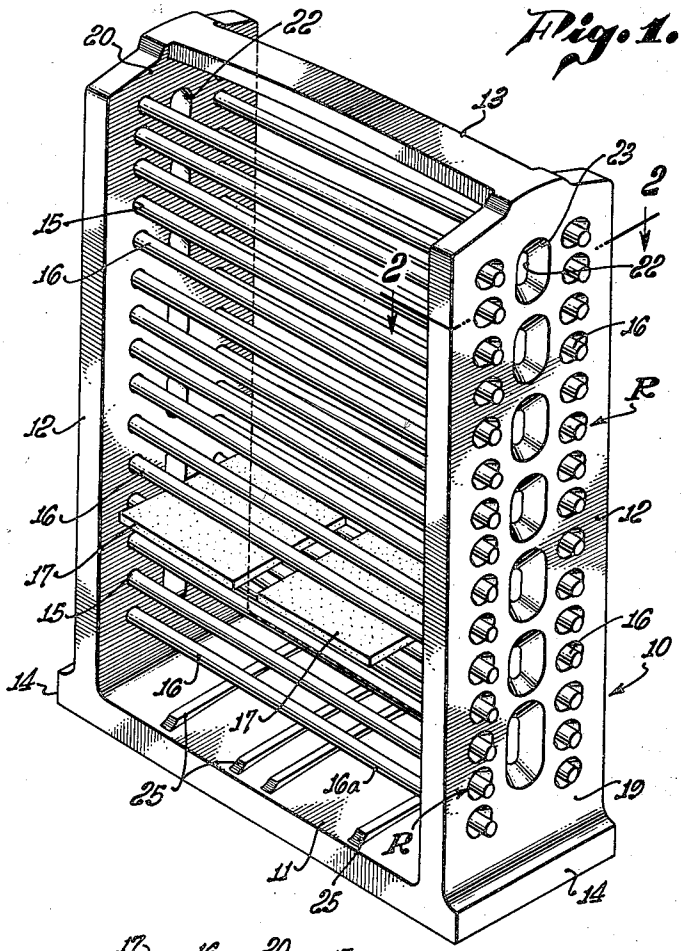
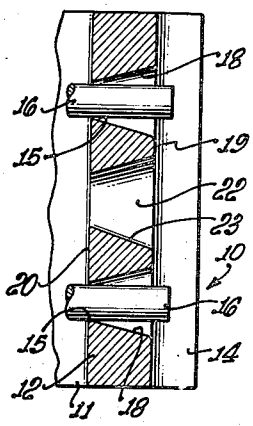


Fig. 2.



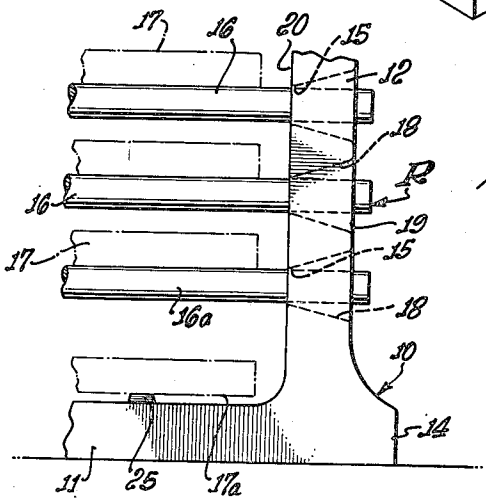


Fig. 3.

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CERAMIC TILE SUPPORT

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5 Claims. (Cl. 25—153)

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This invention relates to improvements in ceramic tile supports or saggars used to carry in spaced relation, series of ceramic tiles during their firing in a kiln. More particularly, the invention has to do with saggars of the type comprising an upstanding open box-like body, the sides of which are apertured for the reception of a vertical series of horizontally positioned tile-carrying rods.

My general object is to make certain improvements in the saggar structure benefiting not only its utility as a tile carrier, but making possible the formation of the saggar itself with greater facility and in a structural form having various advantages over those heretofore used.

The invention is particularly concerned with the manufacture of a single piece saggar comprising integrally formed base, upstanding sides and an interconnecting top member or section, and the construction of its parts, with particular reference to the apertures in the sides, to serve the several purposes of making possible the formation of the entire saggar in a single simple molding operation, providing for the venting of gases through the sides during firing of the supported tiles, and maintenance of ratio of the weight of the saggar to the weight of its tile load.

In accordance with the invention, the sides are provided with spaced vertical rows of rod-receiving openings, each of which is formed in the saggar moulding operation by a plug or projection giving to the opening an outward flare extending to the outer surface of the side, thus permitting withdrawal of the mold part from the formed opening without requiring any complications in the mold parts and without disturbing the integrated saggar structure. In furtherance of the desirability for venting gases through the sides of the saggar and of effecting a considerable reduction of its weight to a degree consistent with its desirable strength and resistance to warpage over long use, I provide the sides, in the described molding operation, with an open formation between the rod-supporting openings, preferably by means of a series of relatively large vent openings which also have outwardly flared shapes, as and for the particular advantages stated.

As will appear, the invention has various additional features, all of which will be understood fully and explained to best advantage in the following detailed description of the illustrative embodiment shown by the accompanying drawing, in which:

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Fig. 1 is a general view showing the tile saggar in perspective;

Fig. 2 is a cross section taken on line 2—2 of Fig. 1 through one of the side walls of the saggar; and

Fig. 3 is a fragmentary enlargement showing in elevation a base portion of the saggar adjacent one of the side walls.

Referring first to the general showing of Fig. 1, the saggar is shown to be molded in the form of a one-piece body 10 comprising a base 11, a pair of spaced upstanding and vertical sides 12, and a top transverse piece 13. Lateral stability may be given the body by extending the base at the flange 14. While it is contemplated that the top transverse member may have any desired width relative to the sides 12, it may conveniently be made narrower, substantially as illustrated, to present less obstruction to the space overlying the tiles carried by the saggar, and to be useable conveniently as a handle for carrying the saggar.

Each of the sides 12 contains two parallel vertical rows R of openings 15 alined in horizontal pairs to receive rods 16 on which the tiles 17 are placed for heating and setting of their glaze in a high temperature kiln. As illustrated in Fig. 2, the wall 18 of each opening 15 is tapered from the outer surface 19 of the side 12 to its inner surface 20, the rod 16 thus being supported at the inner edge of the opening adjacent the inside surface 20.

Each side 12 is given an open formation, in addition to the presence of the openings 15, by molding into and through the wall a series of openings 22 of substantially larger size than the openings 15 and positioned in a row centrally and vertically between the rod-receiving opening rows R. As in the case of openings 15, the ventilation openings 22 have their sides 23 extending convergently from the outer to the inner surfaces of the wall 12. By reason of the presence of the openings 22, volatiles released from the tile glaze during the course of firing, are permitted escape through the side walls of the saggar, as well as from between the tiles through the open sides of the saggar. Also, as previously indicated, the presence of the series of openings 22 serves to reduce advantageously the weight of the saggar and its tendency toward warpage.

As will be understood, in the operation of molding the saggar as a single ceramic body, openings 15 and 22 may be formed by inserted and correspondingly shaped mold parts or plugs, which may be withdrawn at the conclusion of the molding operation, along with the other mold

parts, all in a manner permitting formation of all the openings in a simple operation while retaining the unitary structure of the saggar as a whole.

Provision is made for supporting the lowermost tiles independently of the bottom rods **16***a*, by molding into the surface of the base **11** the upstanding ribs **25**, the latter being of course molded integrally with the base and given sufficient vertical depth to support bottom tiles **17***a*, see Fig. 3, clear of the base.

I claim:

1. A tile saggar comprising a single piece molded ceramic body including a base, a pair of upstanding sides and a top section interconnecting the sides, said sides each containing parallel vertically extending rows of rod-receiving openings and containing between said rows a vent opening, the wall surfaces of all of said openings being flared outwardly to the outer surfaces of said sides.

2. A tile saggar comprising a single piece molded ceramic body including a base, a pair of upstanding sides and a top section interconnecting the sides, said sides each containing parallel vertically extending rows of rod-receiving openings and containing between said rows a vertical series of relatively larger vent openings, the wall surfaces of all of said openings being flared outwardly to the outer surfaces of said sides.

3. A tile saggar comprising a single piece molded ceramic body including a base, a pair of upstanding sides and a top section interconnecting the sides, said sides each containing parallel vertically extending rows of rod-receiving openings and containing between said rows a vent opening, the wall surfaces of all of said openings being flared outwardly to the outer surfaces of said sides, and the width of said top section being less than that portion of the width of the sides occupied by and between said rod-receiving openings.

4. A tile saggar comprising a single piece molded ceramic body including a base, a pair of upstanding sides and a top section interconnecting the sides, said sides each containing parallel vertically extending rows of rod-receiving openings and containing between said rows a vertical series of relatively larger vent openings, the wall surfaces of all of said openings being flared outwardly to the outer surfaces of said sides, and the width of said top section being less than that portion of the width of the sides occupied by and between said rod-receiving openings.

5. A tile saggar comprising a single piece molded ceramic body including a base, a pair of upstanding sides and a top section interconnecting the sides, said sides each containing parallel vertically extending rows of rod-receiving openings and containing between said rows a vent opening, the wall surfaces of all of said openings being flared outwardly to the outer surfaces of said sides, and said base having on its top surface a plurality of tile supporting ribs below the lowermost of said rod-receiving openings.

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