April 16, 1968 E. E. DAVIS 3,377,670

COMPOSITE CAR TOP TILE

Filed Aug. 10, 1966

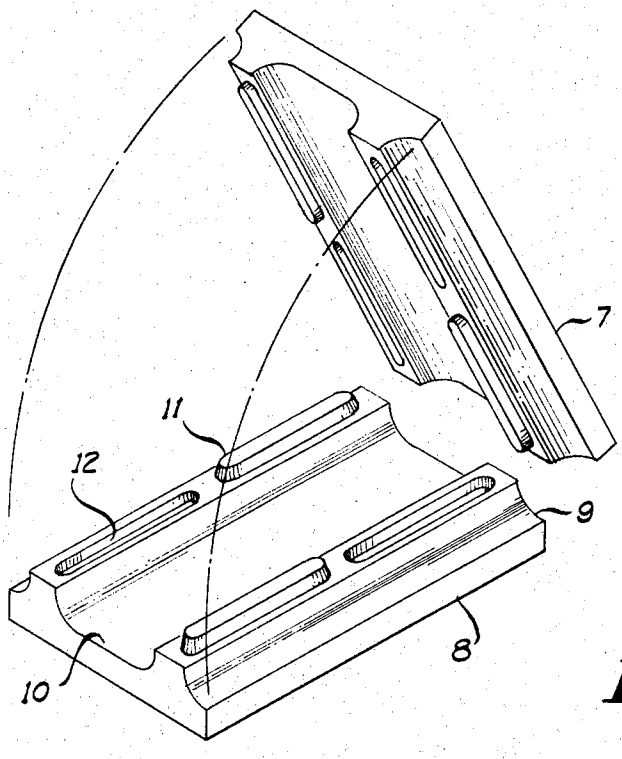


Fig. 1

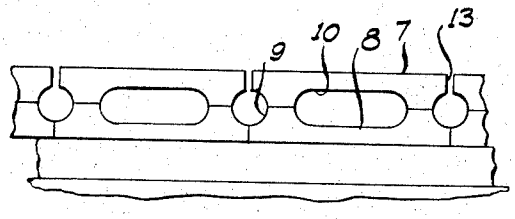


Fig. 2

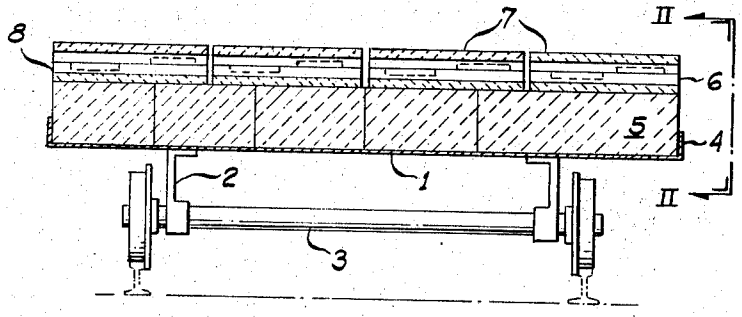


Fig. 3

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COMPOSITE CAR TOP TILE

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This invention relates to new and useful improvements in car top tile for kiln trucks which constitute the supporting surface for the molded or extruded clay products that are placed thereon for charging into drying and firing kilns.

It is among the objects of this invention to provide an improvement in the car block design of the type shown in Patent 3,228,084, granted Jan. 11, 1966. In accordance with the present invention, the tile is split longitudinally to form interchangeable top and bottom sections that are separately replaceable when damaged in use.

It is a further object of the invention to provide a hollow car top block or tile which is adapted to be pressure molded, as distinguished from extrusion, which permits producing a more porous body portion, which is more resistant to thermal shock than the dense extruded type of tile.

The invention will become more apparent from a consideration of the accompanying drawing constituting a part hereof in which like reference characters designate like parts and in which:

FIGURE 1 is an isometric view of a pair of half tile with diagonally staggered aligning, interacting tongue and grooves embodying the principles of this invention;

FIGURE 2 is a side elevational view of the tile of FIGURE 1 assembled on a car top taken along the line 2—2 of FIGURE 3; and

FIGURE 3 is an end view of a kiln car showing the hearth brick and tile assembly.

In the drawing, the numeral **1** designates a steel plate, or truck frame, having journaled brackets **2** for wheeled axles **3**, and having side flanges **4** for retaining refractory brick **5**, which are placed across and along the length of the car frame, as shown in FIGURE 3. Mounted on the brick **5** are the car top tile generally designated by the numeral **6**, which consist of the parts **7** and **8**, as shown in FIGURE 1. The block, in contour, may be provided with concave side walls **9** and a recessed center portion **10**, which, when the blocks are joined, as shown in FIGURE 2, constitute flues for the hot gases of the kiln to pass through to balance the temperatures on opposite sides of the kiln trucks.

As shown in FIGURE 1, each of the tile **7** and **8** are provided with tongues **11** and grooves **12**, they being staggered diagonally, as shown, to provide proper interlocking of the tile halves when they are assembled as a car top. The top halves of the tile **6** may be of shorter width to form slots **13** at the top, through which compressed air can be blown to clear out the grooves between the tile to provide for efficient circulation of the heating gases or products of combustion within the kiln.

Instead of the tile having the shallow-depth recesses **10**, they can be cylindrical or of any other shape, if desired.

As is apparent from FIGURE 1, the split tile has to be formed in a press, as distinguished from an extrusion process, because of the tongues and grooves, and the pressing of the tile results in a more porous body, which is thermally shock-proof, as distinguished from the dense extrusion tile which requires a very wet clay mix and results in a dense grain structure.

In use, it is evident that the upper edges of the tile can be replaced, if damaged, or when subject to wear, the upper halves sometimes wearing out while the lower portion is still intact, thus the invention provides a more economical tile in use and a better quality tile for service.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. A kiln car having a supporting frame mounted on wheeled axles for movement on a kiln track, said frame having a base layer of refractory clay brick and having a top layer of refractory tile comprising top and bottom half tile sections having interacting tongues and grooves when assembled and having side wall surfaces and a hollow center portion shaped to form flues when the tongue and groove portions are in interacting engagement and when the tile are mounted in adjacent rows on the car top.

2. A kiln car as set forth in claim **1** in which the tongues and grooves of the top layer tile are in staggered relation diagonally of the longitudinal axis of the tile with each half-section having an equal number of tongues and grooves.

References Cited

UNITED STATES PATENTS

1,636,073	7/1927	Robertson.
1,739,186	12/1929	Morns et al.
1,874,516	8/1932	Hartford.
3,094,759	6/1963	Herron.
3,228,084	1/1966	Coleman et al.

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