March 20, 1956 E. J. GUINANE 2,738,564

CERAMIC TILE STACKERS

Filed Dec. 15, 1954

FIG. 1

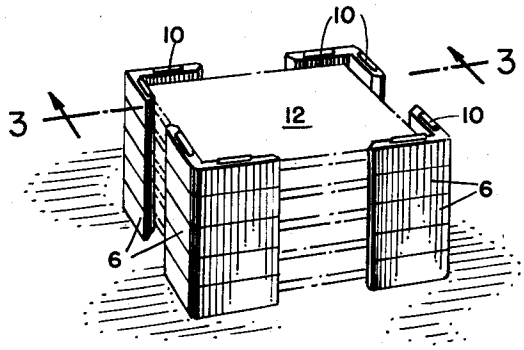


FIG. 2

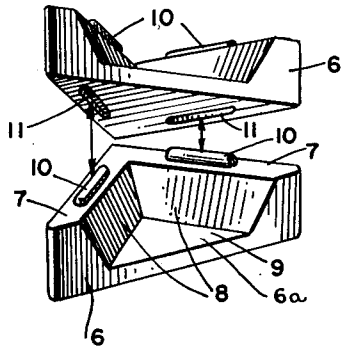


FIG. 3

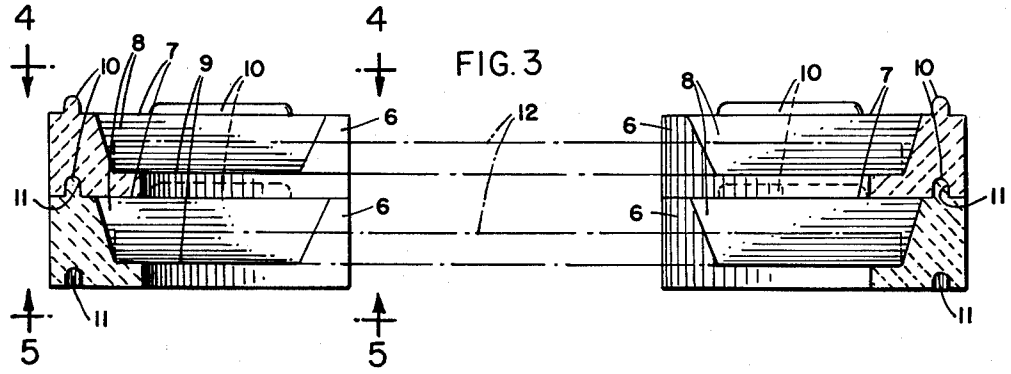


FIG. 4

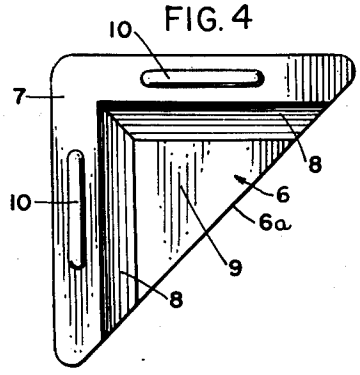
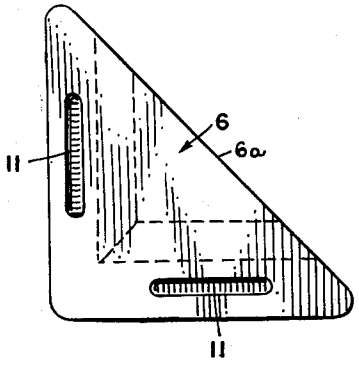


FIG. 5



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CERAMIC TILE STACKERS

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1 Claim. (Cl. 25—153)

This invention relates to article stackers for use in kilns, particularly for the stacking of glazed ceramic tile, to permit heat treating.

In kiln-treating glazed ceramic tile, two conditions are quite imperative. The tile must be so supported as to preclude the glazed area from contacting any object during the treating process and the tile should be so stacked as to enable the kiln to accommodate its maximum capacity for any heating thereof.

The main objects of this invention, therefore, are to provide an improved form of stacker unit multiple sets of which may be used to support tile of varying shapes and dimensions one above the other with the glazed areas completely out of contact with the supporting unit and any other surface whatever; to provide a stacker unit of this kind having interfitting formations on the oppositely abutting faces which insure a perfect vertical alignment and secure retention of any number of units in a stack; and to provide a stacker unit of this kind which is simple in construction hence very economical to manufacture and extremely facile to use in heat-treating operations.

In the accompanying drawings:

Figure 1 is a perspective view of five sets of stackers, each stacker constructed in accordance with this invention, superimposed one on another and the sets relatively positioned to support a plurality of rectangular tiles one above the other for heat treatment.

Fig. 2 is an exploded, perspective view of two such superimposed stacker units.

Fig. 3 is an enlarged, transverse, sectional view of the assemblage shown in Fig. 1, as viewed from the plane of the line 3—3 of Fig. 1.

Fig. 4 is a plan of one set of units as taken on the plane of the line 4—4 of Fig. 3, and

Fig. 5 is a bottom view of the same as taken on the plane of the line 5—5 of Fig. 3.

The conception of this invention involves a unit of such form as to provide an article-supporting ledge intermediate the opposite faces of the unit which faces are respectively formed with projections and recesses whereby a plurality of units in a stack are securely held in vertical alignment whereby a plurality of stacks may be relatively positioned to support a plurality of tile with the glazed areas free of all possible contact with each other and all other contiguous surfaces.

A stacker unit embodying the foregoing concept comprises a base part **6** whereon there is an upstanding rim **7**, the inner faces **8** being inclined inwardly and downwardly toward a horizontally-disposed ledge **9** between the third edge **6a** of the base part **6** and the juncture of the inclined faces of the rim parts **7**. Projections **10** and recesses **11** are formed on the top of the rim parts **7** and on the bottom of the base part **6**, respectively which serve to secure stacks of the units in superimposed vertical alignment to accommodate the spacing of tile **12** on the respective ledges **9**.

These stacker units preferably are made of a clay

material of such quality that it can be fired at around 2500 degrees Fahrenheit thereby creating a ceramic object that subsequently can withstand the 1300–1500 degrees Fahrenheit required to melt the glaze applied to the tile as a base for ornamentation, as is well known in the ceramic arts.

In its most preferable form, the stacker unit base part **6** is of right-angle triangular form. The rim **7** is disposed transversely to the base **6** along the right-angle edges. The outer walls of the rim **7** are vertical but the inner faces **8** are inclined inwardly and downwardly toward the ledge **9**. The ledge **9**, like the base **6**, is of right-angular triangular form but, of course, of less area.

The projections **10**, on the angularly-disposed top faces of the rim **7**, extend lengthwise of these faces and approximately medially of the width and length of such faces.

The recesses **11**, of substantially the same contour and of a depth equal to the height of the projections **10**, are formed in the under or bottom face of the base **6** in axial alignment with the respective projections **10**.

As is most clear from Figs. 1, 2 and 3, in superimposing two or more of the units so formed, the projections **10** on the lower unit are seated in the recesses **11** in the upper unit. Thus the several units are secured in vertical alignment to whatever height it may be necessary and practical.

A plurality of sets of such stacked units then may be placed apart, with the angles opposed, as shown in Fig. 3 and at such relative distances as will accommodate tiles of any dimension within the limits of the kiln where the tiles are to be treated, in the well-known manner.

As will be most clear from Fig. 3, a tile to be treated rests at the corners on the respective ledges **9** of the four opposed units. Also, it will be noted that the upper glazed surfaces and edges of each tile are held out of all possible contact with either each other or the supporting units. Moreover, the tiles are so spaced apart vertically as to allow for a free circulation of the air, first, as it is being heated and, later, as it is being cooled.

Thus, units of this construction meets the requirements hereinbefore mentioned, for the kiln-treating of ceramics; namely, first, keeping the glazed areas completely free of contact with any other surface and, secondly, permitting the convenient stacking of objects to the full capacity of the kiln with no wasted space, where full production is a requisite each time the kiln is heated.

Although the units here are shown of right-angle triangular form, it should be understood that they could be of other forms and still embody the concept hereinbefore defined. For example, they could be of arcuate form and three or more stacks arranged to support tiles of other than rectangular contour. Or, they could be of acute triangular form and sets of three arranged to accommodate tile of equilateral or other triangular form.

I claim:

A stacker of the class described comprising, a triangular-shaped element having a horizontally disposed base part bounded on two sides by upwardly extending rim parts the inner faces of which are inclined downwardly and inwardly from the top edges of the respective rim parts toward the base part with the base part between the third edge thereof and the juncture of the inclined rim-part faces constituting an open horizontally protruding ledge, and a projection formed on the top edge of each rim part, the under face of the base part having recesses formed therein in alinement with the

projections on the rim part and of substantially the same contour and dimension, whereby two or more superimposed stackers are secured in vertical alinement.

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