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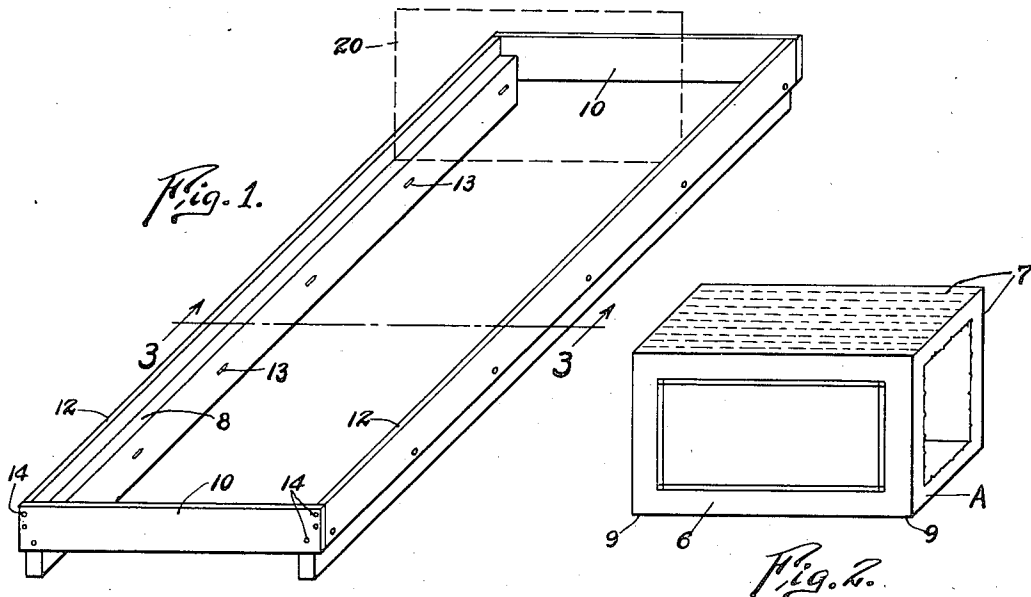
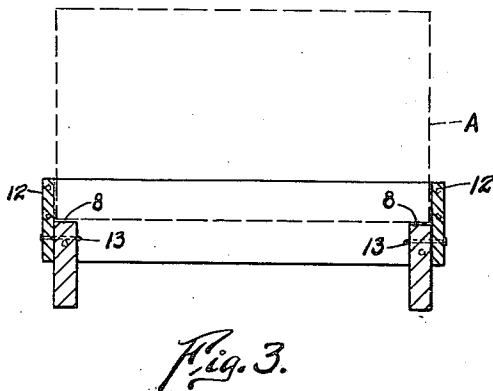
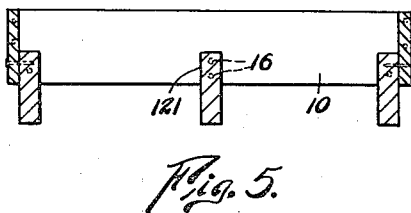
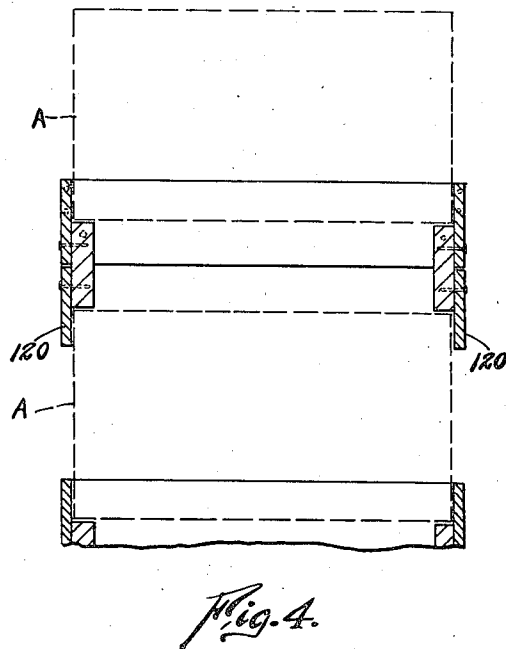
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2,017,571

MEANS FOR HANDLING FRANGIBLE TILES AND THE LIKE

Filed Aug. 31, 1933

2 Sheets-Sheet 1



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MEANS FOR HANDLING FRANGIBLE TILES AND THE LIKE

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2 Sheets-Sheet 2

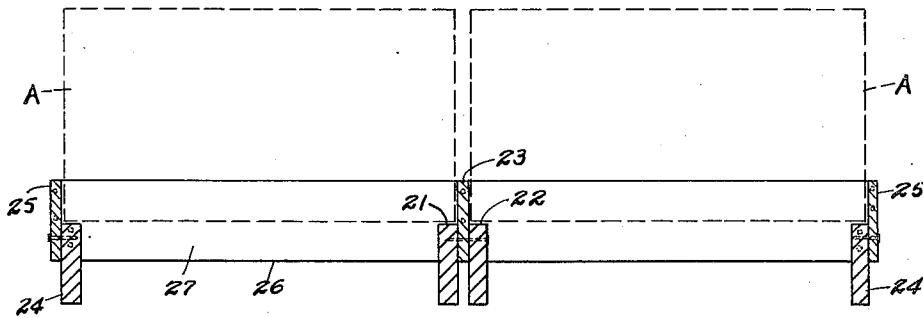


Fig. 6.

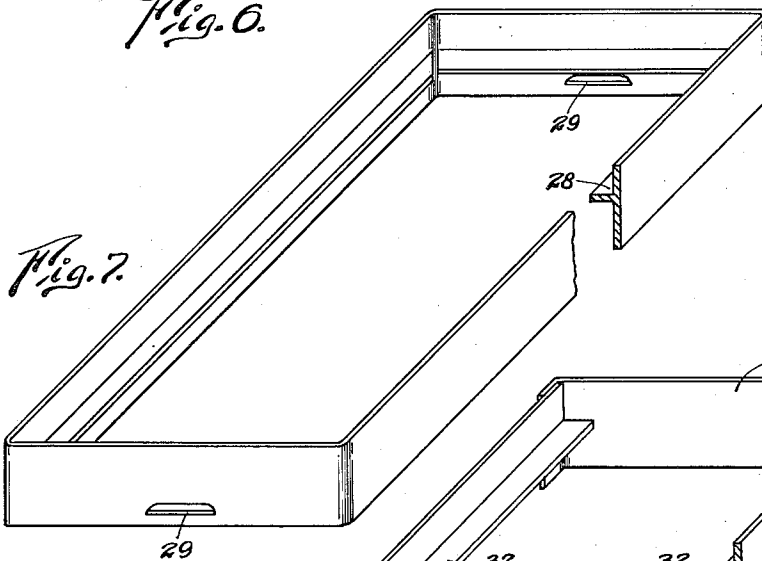


Fig. 7.

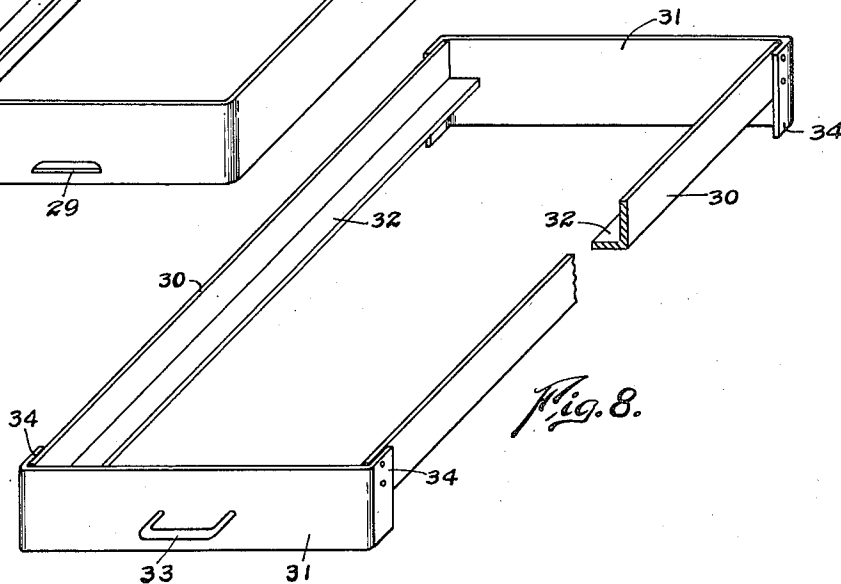


Fig. 8.

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2,017,571

MEANS FOR HANDLING FRANGIBLE TILES
AND THE LIKEWalter Pursell, Cincinnati, Ohio, and Edward C.
Gaertner, Terre Haute, Ind.,

Application August 31, 1933, Serial No. 687,604

6 Claims. (Cl. 206—46)

This invention relates to a method and means for handling frangible ceramic tiles or building units of moldable material which in finished form are of a frangible nature, and providing a pack-
age thereof.

An object of the invention is to reduce to a minimum the great losses resulting from breakage of expensive frangible tiles or building units during the manufacture, handling, and shipping thereof.

Another object is to effect a substantial saving in the cost of packaging and shipping ceramic articles of the above stated character.

A further object of the invention is to provide for increased convenience and a saving of time and effort in the packaging and subsequent handling of frangible building blocks or units, tiles, and the like.

Another object is to provide a package of the character above referred to which is open to inspection at all times, thereby avoiding sealed damage claims and the inconveniences incident thereto.

These and other objects are attained by the means described herein and disclosed in the accompanying drawings, in which:

Fig. 1 is a perspective view of a frame to be used in packaging frangible ceramic building units, tiles, or blocks.

Fig. 2 is a perspective view of one of the tiles or blocks to be associated with the frame of Fig. 1.

Fig. 3 is an enlarged cross-sectional view taken on line 3—3 of Fig. 1, showing by means of broken lines a block or unit embraced thereby.

Fig. 4 is a view similar to Fig. 3 showing a modified form of frame having means associated therewith to facilitate stacking thereof one upon another.

Fig. 5 is a view similar to Fig. 3, showing a center strip adapted to render the frame suitable for supporting building units, blocks, or tiles of varying lengths.

Fig. 6 is a view similar to Fig. 3 showing a double frame such as may advantageously be employed in the handling of the smaller sized units.

Figs. 7 and 8 are fragmental perspective views similar to the view of Fig. 1, showing modified forms of the frame in which metal is the structural material.

The frangible ceramic or pottery block, brick or tile indicated at A, Fig. 2, is one of ordinary construction such as is used in building expensive and elaborate fire-places, bath compartments, built-in decorative slabs, and walls of

various kinds. The unit usually, though not always, is hollow as shown, and has one or more decorative or finished faces 6 which might easily be defaced or chipped during handling. Other faces 7 of the unit may be roughened or scored to receive and hold mortar or other binding substance.

Building units of the above character have been expensive, due largely to the fact that great losses invariably resulted from breakage and chipping of the decorative surfaces, during manufacturing and handling, or shipping. One of the objects attained by means of the instant invention, is the elimination of such handling, or character of handling, which heretofore was responsible for the losses. For example, the units heretofore were removed individually or otherwise from the kiln, and then placed on a suitable vehicle or conveyor for transmission to the finishing and packaging departments; and in this handling it was common to ruin a considerable number of them. Finally, the units were packaged, usually two of them in a cardboard or strawboard box, in which condition they were shipped, stacked, and delivered to the job. During loading, unloading, and stacking of the packaged tiles, many were chipped at the corners or edges, or broken completely, with the result that losses of considerable magnitude were incurred. The foregoing objections and disadvantages have been practically eliminated and certainly minimized, by practising the invention disclosed herein.

In accordance with the present invention, there is provided a frame such as is illustrated in Fig. 1. This device may advantageously be constructed of wood or metal strips fastened together to provide an open frame having interior longitudinal ledges or shelves 8 upon which may rest the opposite ends 9 of the units or blocks. Each frame may support a number of blocks or building units in side-by-side relationship, with their decorative faces 6 lying in vertical planes. Slabs or sheets of cardboard, strawboard, or other protective material are placed between adjacent blocks, the edges of the sheets resting also upon the ledges or shelves 8, whereby said sheets are caused to remain in position. Exteriously of the shelves or resting areas are the side walls or runners 12, which preclude shifting of the units laterally upon the frame. The end pieces or walls 10 extend sufficiently above the shelves to prevent shifting of the units longitudinally of the frame.

When the frame is made of wood, the shelf or

ledge members may be of longitudinal strips approximately three-fourths inch in thickness, and several feet in length, and to the outer faces of these may be nailed, screwed, or otherwise secured, the side walls or runners 12 which extend for a distance above the upper edge of the shelf. The securing means, if in the form of nails, may advantageously be clinched over as at 13 to preclude separation of the parts. The end pieces 10 are nailed or otherwise secured, as at 14, to the ends of the members 8 and 12, and sufficient space is provided beneath the end pieces to admit the fingers of workmen desiring to carry the frame. The strips 10 and 12 may be strips of common inexpensive plaster lath. It is to be noted that the units A (Fig. 3) do not contact the floor when the frame is resting upon a floor or other surface. The parts 8 and 12 may be made integral, if desired.

Attention is now directed to Fig. 4, wherein is shown a modified form of the device, this being provided with additional side walls or runners 120 depending from the shelf members so as to preclude lateral shifting of frames when stacked, as shown. In the modification of Fig. 5, an intermediate longitudinal supporting strip 121 is secured, by means of nails, screws, or the like 16, to the opposed end pieces 10. By means of this construction, the frame is rendered suitable for supporting odd-length units shorter than those for which the frame is constructed. The side members of Figs. 4 and 5 may each be formed of a single piece of material properly shaped by machine.

In those instances wherein the building units are of the smaller sizes, the frame of Fig. 6 may be employed for handling and shipping purposes. In this modification, the inner supports or shelves 21 and 22, together with a runner or separator 23, are interposed between the outer members 24 and 25. These outer members correspond to the members 8 and 12 of Fig. 1, and they perform similar functions. The lower edge 26 of the transverse end strip 27 provides a handhold elevated relative to the lower edges of members 24, so that the workmen's fingers may be inserted beneath the end strips even though the frame is resting upon the floor or other supporting surface. The modified device shown in Fig. 6 may be constructed of any suitable material.

The modified structure of Fig. 7 is of T-iron, bent to provide a four cornered frame. The rib 28 of the T-iron is directed inwardly at the four sides of the frame to provide the ledge or shelf upon which the building units may rest. Handholes 29 may be formed in opposite ends of the frame, or if desired other forms of common handle means may be provided.

The modified device of Fig. 8 may also be of metal, there being employed in this case a pair of angle irons 30 held in spaced parallelism by means of end connectors or plates 31. The legs 32 of the angle irons are directed inwardly to provide shelves or ledges for supporting opposite edges of the building units. One of a pair of handle means at opposite ends of the frame, is indicated at 33. The end plates or members 31 may have their opposite ends 34 turned at right angles, as shown, and said ends 34 may be welded, riveted or otherwise suitably secured to the angle irons. When the frames are constructed of metal, the supporting ledges for the building units may be suitably padded to preclude injury to the units. The padding may cover also the inner faces of the vertical walls

adjacent to the ledges. The padding may be an L-shaped piece of cardboard.

It is to be understood that various minor modifications of the frames may occur in complying with known methods of manufacture, and such modifications are to be considered within the scope of the invention.

In use, the frames are taken to the kiln and upon removal of the building units from the kiln they are placed upon the frames in side-by-side relationship, with the decorative or finished faces lying in adjacent vertical planes. As before stated, cardboards 20 or other suitable sheets are placed between adjacent tiles to preclude chafing and chipping. The package thereby provided is handled, shipped, and delivered to the job without the expense of providing the usual cardboard or strawboard containers, and the breakage hazard is thereby reduced to a minimum. The packages of units thereby provided can be quickly loaded and unloaded during shipment, for each package may contain a number of building units depending upon the size of the frame and the units. An appreciable saving is effected not only because of minimum block or unit breakage, but also because of the low cost at which the frames can be made of scrap materials.

Although the invention is disclosed and explained herein, particularly in connection with units of ceramic or pottery character, it is contemplated that the units such as A may be concrete, cinder block and/or other fictile art products, that may or may not have specially finished faces. Reference is made particularly to the fact that some concrete bricks and/or blocks have been made with one or more faces finished in somewhat the same character as are referred to herein as being commonly provided on ceramic or pottery block, brick or tile. The particular class of goods with which this invention concerns itself, is that class of products that in their finished state are quite readily fractured, chipped or broken by the ordinary handling usually given to such articles, and includes products such as are of clay origin, those that use binders ordinarily known as cement and/or hydraulic lime, etc., and includes those units that reach their finished states by ordinary air drying, by firing and/or by both air drying and firing. Typical examples of the products made by the indicated processes, and included in the invention, are firebrick and cement bricks.

What is claimed is:

1. A package comprising a series of frangible building units resting in side by side relationship with their ends resting upon a pair of spaced, parallel, longitudinal ledge members, each ledge member having secured to an outer face thereof a strip of wood extending above the resting areas of the units, to preclude shifting of the units laterally of the ledge members, and a pair of end strips each having an upper and a lower edge extending respectively above and below the resting areas for the units, the lower edges being slightly elevated relative to the ledge members to provide a simple hand-hold.

2. A package comprising a series of frangible building units resting in side by side relationship with their ends resting upon a pair of spaced, parallel, longitudinal ledge members, each ledge member having secured to an outer face thereof a strip of wood extending above the resting areas of the units, to preclude shifting of the units

laterally of the ledge members, a pair of end strips each having an upper and a lower edge extending respectively above and below the resting areas for the units, the lower edges being slightly elevated relative to the ledge members to provide a simple hand-hold and a series of shock absorbing elements between adjacent units.

3. As a new article of manufacture a frame for facilitating handling of frangible building units, comprising in combination a pair of co-extensive shelf strips maintained in parallelism and spaced apart a distance approximating one dimension of the units to be placed thereon, and upwardly extending border elements secured flatwise upon the outer faces of the strips and coextensive therewith to embrace the units and preclude shifting thereof upon the shelf strips, and end border elements located at the ends of the strips and each having a lower edge elevated relative to the strip ends whereby to provide a hand-hold.

4. As a new article of manufacture a frame for facilitating handling of frangible building units, comprising in combination a pair of co-extensive shelf strips maintained in parallelism and spaced apart a distance approximating one dimension of the units to be placed thereon, upwardly extending border elements secured flatwise upon the outer faces of the strips and coextensive therewith to embrace the units and preclude shifting thereof upon the shelf strips, border elements located at the ends of the strips and each having a lower edge elevated relative to the strip ends whereby to provide a hand-hold, and a substan-

tially central supporting strip co-extensive with and spaced intermediate the shelf strips in coplanar relationship therewith.

5. As a new article of manufacture an open bottom rectangular frame of T cross section, having the stem portion of the T shape member disposed in a horizontal plane, the stem portions of opposite sides of the frame projecting toward the center of the frame and providing a ledge for supporting articles on the frame, whereby the lower portion of the table member thereof serves as a base for the frame and the ledge portion is supported above said base portion, and whereby the upper portion of the table member serves as a circumferential wall limiting lateral displacement beyond the ledge of any articles resting on the ledge.

6. As a new article of manufacture an open bottom rectangular frame of T cross section, having the stem portion of the T shape member disposed in a horizontal plane, the stem portions of opposite sides of the frame projecting toward the center of the frame and providing a ledge for supporting articles on the frame, whereby the lower portion of the table member thereof serves as a base for the frame and the ledge portion is supported above said base portion, and whereby the upper portion of the table member serves as a circumferential wall limiting lateral displacement beyond the ledge of any articles resting on the ledge and having hand holds provided in opposed sides of the frame.

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