

J. SEDLAK

BUILDING BLOCK AND THE LIKE

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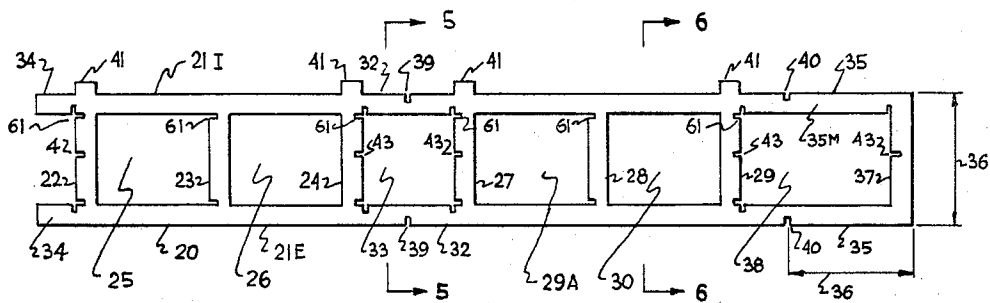


FIG. 1.

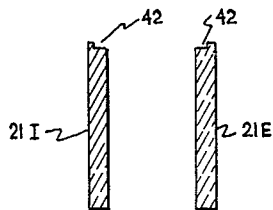


FIG. 5.

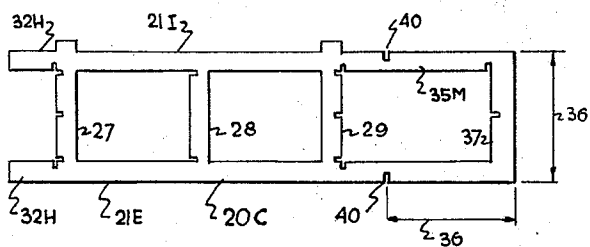


FIG. 2.

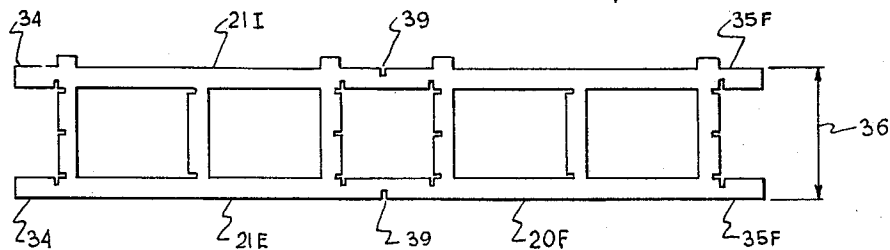


FIG. 3.

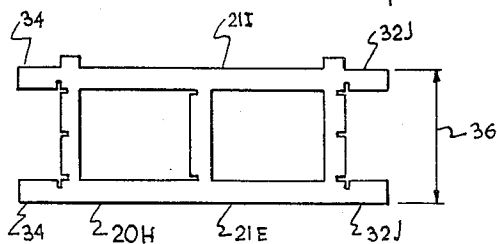


FIG. 4.

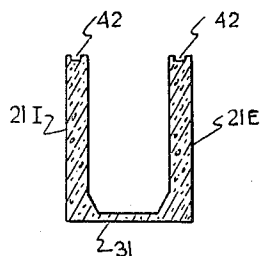


FIG. 6.

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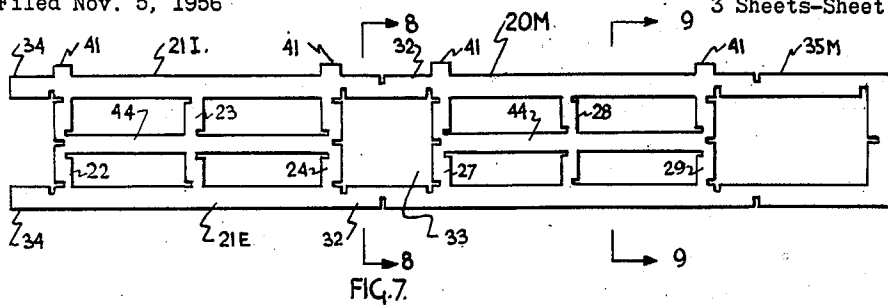
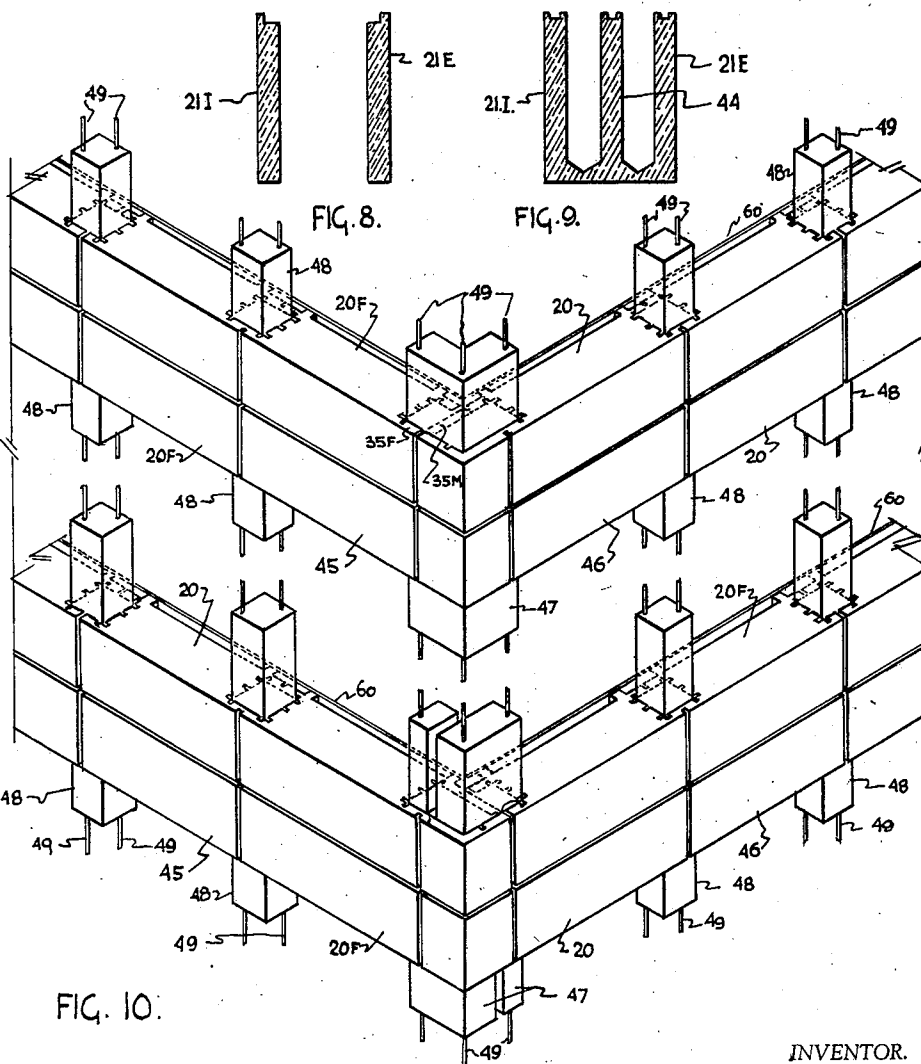
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BUILDING BLOCK AND THE LIKE

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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

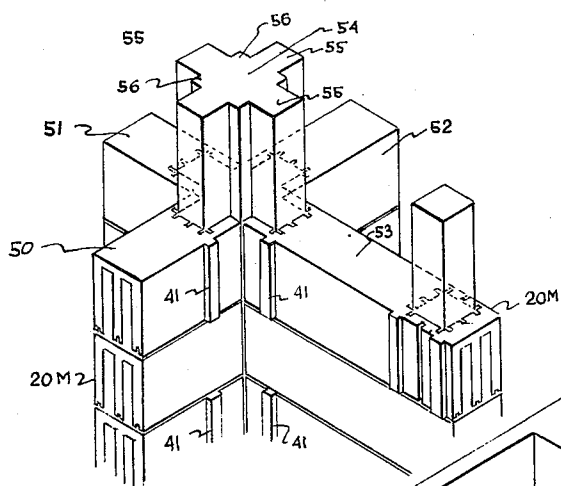


FIG. 11.

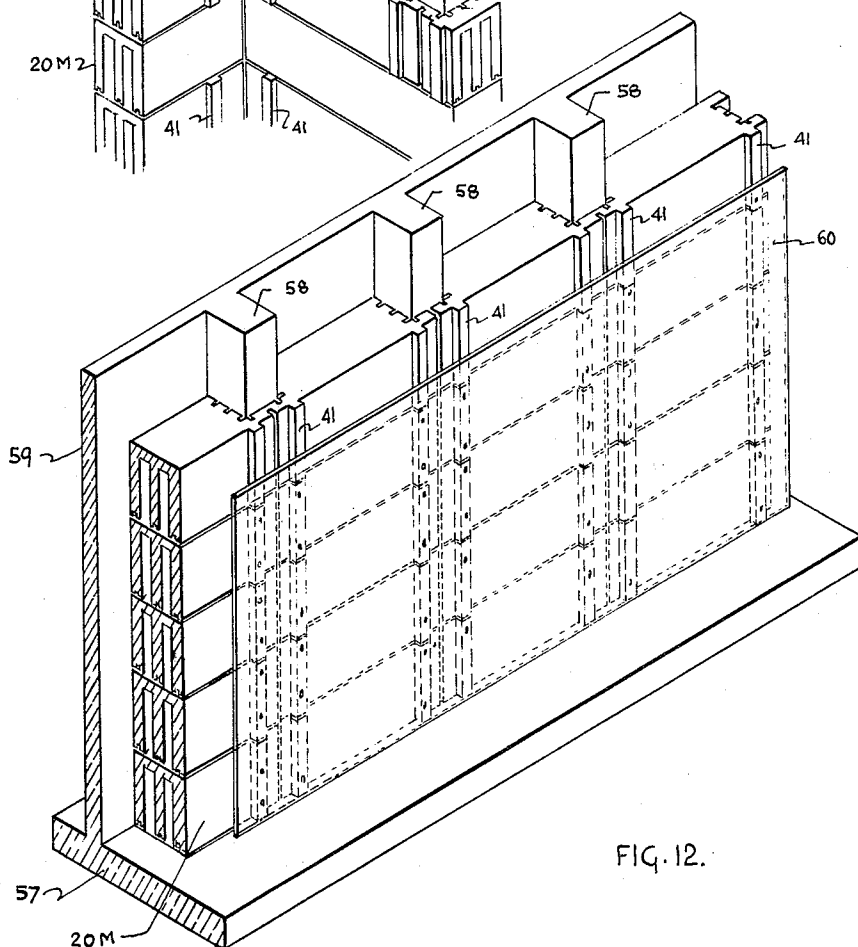


FIG. 12.

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BUILDING BLOCK AND THE LIKE

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2 Claims. (Cl. 50—72)

This invention relates to new and useful improvements in building structures, and particularly it relates to building blocks or tiles and the like, and to building constructions and the like in which such building blocks or tiles are adapted to be used.

One object of the invention is to provide a universal construction of hollow building block or tile which may be used as a standard block unit and which is capable of ready and convenient subdivision into varying lengths to produce component members for the construction of various parts of buildings, whereby the necessity of producing a plurality of sizes and forms of individual building units for the various purposes required in such building constructions may be precluded.

Another object of the invention is to provide a production block of standard size for construction, adapted to be used in varying forms throughout the construction and the required number of which can be readily predetermined because of the convertability of the production block.

Still another object of the instant invention is the provision of a standard construction block or tile comprising a pair of substantially parallel side walls defining the thickness of the wall of the structure to be constructed and having therein a plurality of receptacles and a medially disposed hollow. One end portion of the improved tile provides a hollow therein, said end portion being of a length equal to one-half the length of the medially disposed hollow and the thickness of the structure to be constructed.

Other and further objects of the invention will become apparent from the following description and appended claims, reference being had to the accompanying drawings and numerals of reference therein.

On the drawings:

Fig. 1 is a bottom view of a standard production block or tile.

Fig. 2 is a bottom view of a corner block or tile.

Fig. 3 is a bottom view of a full block or tile.

Fig. 4 is a bottom view of a half block or tile.

Fig. 5 is a vertical sectional view taken substantially on the line 5—5 of Fig. 1 and looking in the direction of the arrows.

Fig. 6 is a vertical sectional view taken substantially on the line 6—6 of Fig. 1 and looking in the direction of the arrows.

Fig. 7 is a bottom view of a modified embodiment of the invention.

Fig. 8 is a vertical sectional view taken substantially on the line 8—8 of Fig. 7 and looking in the direction of the arrows.

Fig. 9 is a vertical sectional view taken substantially on the line 9—9 of Fig. 7 and looking in the direction of the arrows.

Fig. 10 is a perspective view illustrating a corner formed by two walls and employing the invention.

Fig. 11 is a perspective view illustrating four walls

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employing the invention supported by a common column.

Fig. 12 is a perspective view illustrating the formation of a basement wall by employing the invention.

Referring now more particularly to the drawings, one embodiment of the block or tile 20 is illustrated in Fig. 1. The tile 20 is of any suitable fabrication such as clay or concrete or the like, and its dimensions are predetermined by the requirement of the particular construction in which the block 20 is to be employed.

The uniform production tile 20 has a pair of parallel inner and outer walls 21-I and 21-E which are at times hereinafter generally referred to as walls 21. The tile 20 has three spaced and parallel vertical walls or webs 22, 23 and 24 between which and the walls 21 there are defined a pair of wells or receptacles 25 and 26 separated from each other by the web 23. The tile 20 has a second set of vertical walls or webs 27, 28 and 29 that are spaced from each other in parallel relationship and which together with the side walls 21 define a second pair of wells or receptacles 29A and 30 that are separated from each other by the web 28.

The receptacles or wells 25, 26, 29A and 30 are defined at the upper end thereof by a top wall 31, as illustrated in Fig. 6. Each of the receptacles or wells 25, 26, 29A and 30 is of substantially the same length, width and depth, thereby providing two pair of substantially identical receptacles, each pair being spaced from the other pair thereof, as illustrated in Fig. 1.

The tile 20 has a hollow pillar forming medial portion 33 defined by parallel webs 24 and 27 and by medial parallel portions 32 of the walls 21. In the preferred embodiment, the hollow 33 is square in cross section and said hollow 33 has no top or bottom wall. The production tile 20 has a pair of parallel end extensions 34 that are extensions of the walls 21-E and 21-I respectively, and each of which is a length equal to substantially one-half the length of the side wall portions 32. Accordingly, when the end portions 34 of one tile are abutted in aligned portion to the end portions 34 of an adjacent like block or tile with a standard thickness of mortar or the like, a chamber or hollow would be formed having the same dimensions as the hollow 33, illustrated in Fig. 1.

At the opposite ends of tile 20 there are a pair of wall extensions 35. The length of each of the wall extensions 35 is equal to the length of a side wall extension 34 plus the thickness of the tile 20 or about three times the length of an extension 34.

The thickness of tile 20 is represented by an arrow identified as 36. A wall or end web 37 formed at the end of the side wall extensions 35 forms one end of the tile 20. Between the wall 37 and web 29 there is formed a vertically extending hollow 38 having no top or bottom and which is further defined by the side wall extensions 35, as illustrated in Fig. 1.

The tile 20 is provided with a plurality of fracture grooves, one pair 39 thereof being disposed in parallel positions about midway in the wall portions 32, the left portion being equal to 34, and the other pair 40 thereof being disposed in parallel positions in the wall extensions 35 at substantially the end of the inner one-third of said extensions 35, a distance from the end wall 37 exactly equal to the thickness 36 of the tile 20.

A plurality of strips 41 which are integral with the inner wall 21-I are disposed in parallel alignment along said wall 21-I. Each of the strips 41 extends from the top to the bottom of the block 20 and each is comparable to and used for the purpose of a conventional furring strip. The standard production tile 20 preferably has four such strips 41. One is aligned with and appears as an inward extension of the web 22; the second is

aligned with and appears as an inward extension of the web 24; the third is aligned with an appears as an inward extension of the web 27, and the fourth is aligned with and appears as an inward extension of the web 29.

The open or lower end surfaces of each of the walls 21 and webs 22, 23, 24, 27, 28, 29 and 37 have therein an elongated longitudinally extending groove or slot 42, as illustrated in Figs. 5, 6, 8, and 9, the walls creating hollows 33, 38 and end extension 34 with web 22 forming one-half portion of a hollow lock, the inner walls created by the slot or groove as illustrated in Figs. 5 and 8. Said slots or grooves 42 are provided for the purpose of locking the tile 20 to adjacent tiles. By pouring concrete or cementitious substance into hollows it will automatically flow into above-mentioned grooves or slots. Vertical grooves or keyways 43 are provided on the webs 22, 24, 27, and 29, and the end wall 37, as illustrated in the drawings. The purpose of such keyways is to guide the blocks or tile into aligned positions on elongated metal strips provided for that purpose.

What is referred to as a corner block or tile is illustrated in Fig. 2. The corner block or tile 20-C is especially adapted for the formation of outside corner constructions. It may be performed in the production thereof or, preferably, may be easily provided by fracturing the standard production block 20 in or along the parallel grooves 39 provided for that purpose, as illustrated in Fig. 1. Accordingly, the wall sections 32 will be broken or fractured in grooves 39 to form a block 20-C having end extensions 32-H. The webs 27, 28, and 29 remain intact as does the end wall 37.

What is referred to as a full block or tile is illustrated in Fig. 3. The full block or tile 20-F may be made up in standard production and it will be noted that it has no corner forming component; however, preferably, the full block 20-F is formed by tile 20, illustrated in Fig. 1, in the grooves 40 provided for that purpose. By removal of the right end portion of the tile 20 containing the wall 37 one is left with a full block 20-F. The block 20-F is exactly the same as the block 20 except that at the right end of said block 20-F instead of having the hollow pillar forming portion a pair of parallel end extensions 35-F are formed, each of which is the same length as each of the end extensions 34 at the opposite end of the block or tile 20-F.

Frequently, in construction, the requirement for a half block or tile will be apparent and, accordingly, the same may be made up or fabricated as such by the supplier, but preferably it is formed from the standard production block 20. The half block is designated as 20-H and it is illustrated in Fig. 4. It also can be formed from the modifications of the tile 20 seen in Fig. 3. It can be made from the tile 20 by fracturing the tile 20 in the grooves 39 and using the left portion thereof so that there will be provided a half tile having extensions 34 at the left-hand side thereof and having extensions 32-J at the right-hand side thereof, as illustrated in Fig. 4. The extensions 32-J illustrated in Fig. 4 are the same length as the extension 34, illustrated in Figs. 1, 3, and 4.

In Fig. 7 there is illustrated a modified form of the construction tile and therein it is identified by the numeral 20-M. The only difference of a substantial nature between the construction tile 20 and the construction tile 20-M is that in the construction tile 20-M there is provided a pair of vertical partitions 44, each of which is disposed at an opposite side of the hollow 33. The partitions 44 are midway between the walls 21-I and 21-E, the one to the right extending across the wall 23 and the one to the left extending across the wall 28. The partition 44 to the right of Fig. 7 ends at the webs 27 and 29 and the partition 44 to the left of Fig. 7 ends at the wall 22 and the web 24 and in actual construction, said partitions 44 are formed integral with their respective webs and disposed transversely therefrom.

By fracturing the tile 20-M in appropriate positions and grooves, corner tiles, full tiles and half tiles may be provided similar to those illustrated in Figs. 2, 3 and 4, expect, of course, there is provided the vertical partition 44 therein.

Because of the versatility of the invention there is substantially no limitation upon its use as a building tile in construction and there is made possible construction of combination walls, built-in pillars or reinforcement pillars. By placing the tiles or blocks on one side horizontal hollows which are aligned by aligning adjacent blocks are created which provide for suitable construction of beams, ribs or rib ceilings. By removal of the wall portions 32, 34 and 35-F on one side of a plurality of aligned blocks, a hollow is provided which is suitable for construction of a horizontal beam. Removal of half or whole web 22, 23, 24, 27, 28 and 29 by fracturing tile or block on grooves 61 or in grooves 43, if desired, will provide a structure that can be utilized as or replace lintels or horizontal beam on the wall.

Particularly significant is the rigidity of the structure and also the strength thereof, improvement in which is permitted and achieved over the prior art through the exercise of the instant invention. More particularly, and to illustrate clearly the versatility of the instant invention, there is illustrated in Figs. 10, 11 and 12 various constructions employing the instant invention. For example, in Fig. 10 there is illustrated in perspective a wall 45 and a perpendicular wall thereto 46 which come together in a right-angle corner. The wall 45 is formed of aligned building tiles 20-F which provide at the right ends thereof extensions 35-F. In order to align the blocks in proper disposition so that the hollows 33 are in aligned positions, steel strips may be first mounted in a position which is predetermined to engage in the notches or grooves 43. These strips are removed when they have served their purpose and hollow is filled with concrete or other cementitious substance forming pillars indicated by numeral 48. To create a reinforced concrete pillar steel rods indicated by numeral 49 are added. It will be appreciated, of course, that hollows equivalent to hollows 33 will be formed in extensions 34 and 35-F when an allowance is made for a joint. Now then, the wall 46 is formed in a manner similar to the formation of the wall 45 except that at the corner the wall 46 is constructed with tiles 20, each of which has a corner forming element at the end thereof. The tiles 20 and the tiles 20-F are engaged in the position shown in Fig. 10 and, if desired, an intermediate section 35-M of the extensions 35 of each tile 20 may be removed to form a hollow corner which is right-angular in cross section. Thereafter, concrete or other cementitious material may be poured in such right-angular hollow to provide a corner forming and supporting right-angular pillar tying both walls 45 and 46 together through the pillar 47.

Appreciated is the fact that if in wall 45 blocks are aligned by starting with 20 and alternating with 20-F and wall 46 by starting with 20-F and alternating with 20 it is not necessary to remove the intermediate section 35-M. In this manner the right-angular corner will create two hollows in the first row of aligned blocks and the second layer of aligned blocks will also create two hollows in reversed position thereby giving the appearance of a corner with three hollows which when filled with concrete or other cementitious substance forms a solid pillar.

In Fig. 11 there is shown a construction employing tiles 20-M. Said tiles form four radially disposed walls 50, 51, 52 and 53 wherein the end extensions 34 of each tile fits against the end extensions 34 of the three adjacent tiles in the three adjacent walls, as illustrated in Fig. 11. Accordingly, between the inner extensions 34 a cross-like hollow is provided. The column 54 formed therein ties all of the walls together because of the uniform cross-sectional construction of said column 54 which

has enlarged longitudinally extending ribs 55 and the smaller longitudinally extending ribs 56 which alternate with ribs 55, as illustrated in Fig. 11. In the event that any of the walls 51, 52, 53, and 60 should be an inside wall on both its surfaces the blocks 20-M are alternately reversed to provide the furring strips 41 alternately first on one surface and then on the other.

In Fig. 12 there is illustrated the formation of a basement wall, for example, in which there is a cement or other cementitious foundation 57 on which tiles of the modified type 20-M are arranged to form the basement wall. In the construction illustrated in Fig. 12, the section 32 of the wall 21-E is removed. The hollows 33 are aligned to permit the formation of elongated columns or pillars 58 which are now rectangular in cross section. The pillars or columns 58 tie to a vertical concrete or cementitious outside sheet 59. In such case, the pillars or columns 58 actually comprise a plurality of locks which secure the tiles to the outside sheet 59. Plasterboard or the like 60 is suitably secured to the strips 41 in any suitable conventional fashion such as by nails or the like to finish the wall construction.

It will be appreciated that the instant invention is unique in that it precludes the use and conventional manual application of mortar and the like between adjacent building tiles or blocks. This phenomenon results by reason of the fact that each groove 61, 42 and 43 is communicatively with each of the hollows in each tile or block whereby concrete or other pillar forming material poured into any hollow will flow automatically through grooves 61, 42 and 43 and consequently between adjacent blocks or tiles.

Of course, only several of the possible constructions employing the instant invention have been illustrated. However, any desired construction may be built employing modifications of the standard tile, easily formed therefrom on the job.

As many changes or substitutions could be made in the above-described construction and as many apparently widely different embodiments of the invention within the scope of the claims could be constructed without departing from the scope and spirit thereof, it is intended that all matter contained in the accompanying specification shall be interpreted as being illustrative and not in a limiting sense.

I claim:

1. A building block and the like comprising elongated inner and outer parallel walls, a pair of normally unbreakable upper walls and two sets of transversely extending parallel webs integral with said walls, said upper walls spaced from each other longitudinally of said inner and outer walls, the webs of each set uniformly spaced, the central portion of each of said inner and outer walls lying between the innermost web of each set and having outwardly opening vertical grooves parallel to each other and defining a hollow extending between said upper walls, said grooves being disposed about midway between the ends of said central wall portions and providing parallel weakened areas in said inner and outer walls, the innermost webs of each set being spaced from each other a distance less than the spacing between the other adjacent webs, and end extensions on said inner and outer walls being about one-half the length of said central wall portions whereby fracturing said block along said weakened areas, there is provided a pair of hollow building components each having equal end extensions at at least one end thereof.

2. A building block and the like substantially as defined in claim 1 and having a U-shaped member integral with said inner and outer walls and being disposed opposite said parallel end extensions, said U-shaped member having an opening extending therethrough and having outwardly opening parallel grooves therein lying in a plane parallel to said webs and spaced from the adjacent end thereof a distance substantially one-half the distance between the innermost webs of each set thereof, whereby the outer end portion of said U-shaped member is severable from the remainder thereof.

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