One possible embodiment of the invention is a modular construction building block and methodology of use, wherein at least one construction building block has an exterior, which generally defines an interior with a hollow cavity that may receive filler, post-manufacture, through an interior access apparatus. The weight of the filler helps to secure the building block in place in the structure or to a prepared site as well as possibly assist the load-bearing capability of the structure. The exterior of the building block may bear one or more facades. Additional elements of the invention may further include ground securing devices, interlocking devices and the like.
FIG. 1
FIG. 4
MODULAR, HOLLOW CONSTRUCTION BUILDING BLOCK AND METHODOLOGY OF USE

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable

REFERENCE TO A “MICROFICHE APPENDIX”

[0003] Not Applicable

FIELD OF THE INVENTION

[0004] The present invention relates to prefabricated construction building blocks, and in particular, to those which generally feature hollow construction, which allow the building blocks to be essentially filled with material.

BACKGROUND

[0005] In the area of landscaping, building construction and other such areas, masonry-based structures (such as retaining walls, pathways, bridges, shelters, furniture) made from natural materials are generally highly prized for pleasing aesthetic qualities as well as their structural function. These natural building blocks may include quarried materials such as rocks, stones, slate slabs, boulders and the like as they are directly quarried or further refined in specific shapes such as cobblestones. Potential limitations to their use as building materials in masonry structures may include various expenses and costs associated with their use.

[0006] One cost may be the expense of procuring of building blocks from their natural state. This cost may be affected by the natural material’s weight. In many instances, the natural material is relatively heavy, requiring significant use of machinery and mandating significant amounts of labor, particularly when moving natural material building blocks (e.g., quarrying, transportation, etc.).

[0007] Other costs include that of labor (e.g., skilled and unskilled), which is associated with the design and construction of masonry type structures. Skilled labor for design may be required when a masonry structure is built from a large plurality of building blocks or units that need to be organized in a certain fashion or manner to ensure the masonry structure is capable of attaining its desired function. Skilled labor may also be required when cement, mortar or other similar fastening means are used to lock the building blocks together to form the structure. If a required fastening means is not correctly applied during the building of a masonry structure, this could potentially result in additional unwanted costs resulting from increased maintenance and repairs to prevent the possible collapse of all or part of structure.

[0008] In an effort to contain or otherwise essentially ameliorate the aforementioned costs and other expenses involved in the construction of masonry structures, which may use natural construction building units, there have generally been some developments in the materials industry to use prefabricated construction building blocks (e.g., cement cylinder building blocks, molded clay bricks, and the like). In some instances, the prefabricated construction building blocks may be constructed to have an appearance similar to their natural brethren. Some of these prefabricated construction building blocks may be molded self-hardening mineral-based material such as concrete or cement. Other prefabricated construction building blocks may be made from molded clay and then fired to retain their molded shape. For a variety of reasons, these prefabricated construction building blocks are essentially far less expensive to fabricate than to quarry their natural counterparts.

[0009] Additionally, to reduce skilled labor cost associated with masonry construction projects using natural construction building blocks, these prefabricated construction building blocks may be built with or designed to work with locking devices that can aid in the interlocking of a plurality of prefabricated construction building blocks during the construction of masonry structures. These locking devices may include, but not be limited to lock and tab; ridges and recesses; and clips. Some of these locking devices may utilize the weight of the masonry type structure rather than cement to hold the building blocks together.

[0010] It has been generally recognized that such prefabricated construction building blocks still have the disadvantage of expenses related to the building block’s significant weight (e.g., the significant weight still essentially requires specialized lifting/transport machinery and labor to transport necessary quantities to a work site and construction labor with the ability to organize the building blocks into a masonry structure). One attempt to decrease the expenses associated with weight is to reduce the weight of the prefabricated construction building blocks.

[0011] One such attempt could be seen by Smallrock designs, LLC, located at P.O. Box 457, Hadlyme, Conn. 06423. Here, the prefabricated construction building blocks are generally hollow polyurethane-based structures that are generally designed to look like individual building blocks or a section of building blocks from a masonry work. The individual hollow building blocks and wall sections are usually easily transported and assembled by one or a few unskilled personnel. The hollow building blocks may be constructed to interlock and may be staked to the ground to limit subsequent movement.

[0012] A limitation to this particular system could be seen in that the hollow building block/hollow building block structure could lack sufficient mass and strength to be integrated into a load bearing masonry structure (e.g., such as a large retaining wall where mass of the building block is needed for structural support). In such load bearing applications, the hollow building block prior art could be limited to decorative rather than structural applications. Another limitation is that the hollow building blocks may not have sufficient mass to support the structure’s own weight or other forces associated with a large masonry structure.

[0013] What is generally needed therefore, is a hollow construction building block that is prefabricated, inexpensive to manufacture, can be made to simulate the appearance of solid masonry type building materials, whose hollow interior can accept filler when the building block is located at an assembly site such as a construction site for the structure that is being built with the said building blocks.
SUMMARY OF ONE EMBODIMENT OF THE INVENTION

Advantages of One or More Embodiments of the Present Invention

[0014] The various embodiments of the present invention may, but do not necessarily, achieve one or more of the following advantages:

[0015] the ability to be generally assembled by unskilled labor;
[0016] the ability to be generally transported with minimum labor;
[0017] the ability to be generally transported without the need for specially designed transportation machinery;
[0018] the ability to be essentially fabricated at low expense;
[0019] the ability to be generally fabricated in special forms and dimensions for special applications;
[0020] provide an external surface that could essentially represent the surfaces of solid natural and prefabricated construction building blocks;
[0021] the ability to be essentially assembled in a shorter time than using solid natural and prefabricated construction building blocks;
[0022] provide generally a hollow building construction building block that could be filled with materials that creates a greater mass for the building block; and
[0023] provide essentially a hollow building construction system that does not required skilled or otherwise trained labor to design a structure using such a system;

[0024] These and other advantages may be realized by reference to the remaining portions of the specification, claims, and abstract.

Brief Description of One Embodiment of the Present Invention

[0025] A construction building block comprising of at least one body having an exterior and an interior, the exterior generally defining the interior with at least a portion of the interior being hollow to form a generally enclosed interior cavity; at least a portion of the interior cavity being capable of receiving filler post-manufacture through an interior access apparatus; at least a portion of the exterior presenting a facade; and the body being capable of being assembled together with at least one another body to form a structure.

[0026] Another version of the embodiment could be a construction building block for making markers comprising of a pluralities of bodies, each body having an exterior which generally defines an exterior interior, a portion of the interior forming a generally enclosed cavity; the cavity being capable of receiving filler through the interior access apparatus; at least one body comprising a base; and at least one body which forms a sign, the sign being connected to the base.

[0027] Another version of the embodiment may include a method of assembling hollow building blocks into a structure comprising, the invention not necessarily limited to the order of steps shown herein; providing at least one hollow building block with an exterior which generally defines an interior, at least a portion of the interior forming a accessible enclosed hollow internal cavity and at least a portion of the exterior features at least one facade; securing at least one hollow building block; interlocking a plurality of hollow building blocks; and introducing filler post-manufacture into at least a portion of the interior cavity.

[0028] The above-description sets forth, rather broadly, a summary of one embodiment of the present invention so that the detailed description that follows may be better understood and contributions of the present invention to the art may be better appreciated. Some of the embodiments of the present invention may not include all of the features or characteristics listed in the above summary. There are, of course, additional features of the invention that will be described below and will form the subject matter of claims. In this respect, before explaining at least one preferred embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of the construction and to the arrangement of the components set forth in the following description or as illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. In addition, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] FIG. 1 is substantially a perspective cutaway view of one embodiment of the present invention.
[0030] FIG. 2 is substantially a perspective cutaway view of one embodiment of the present invention.
[0031] FIG. 3 is substantially a perspective cutaway view of one embodiment of the present invention.
[0032] FIG. 4 is substantially a perspective cutaway view of one embodiment of the present invention.
[0033] FIG. 5 is substantially a perspective cutaway view of one retaining wall embodiment of the present invention.
[0034] FIG. 6 is substantially perspective cutaway view of one retaining wall embodiment of the present invention.
[0035] FIG. 7 is substantially a perspective cutaway view of one furniture embodiment of the present invention.
[0036] FIG. 8 is substantially a perspective cutaway view of one slab building block embodiment of the present invention.
[0037] FIG. 9 is substantially a perspective cutaway view of one slab building block embodiment of the present invention.
[0038] FIG. 10 is substantially a perspective cutaway view of one slab building block embodiment of the present invention.
[0039] FIG. 11 is substantially a perspective cutaway view of one slab building block embodiment of the present invention.
[0040] FIG. 12 is substantially perspective cutaway view of one tombstone building block embodiment of the present invention.
FIG. 13 is substantially a perspective cutaway view of the pillar building block embodiment of present invention.

FIG. 14 is substantially a perspective cutaway view of one embodiment of the present invention.

FIG. 15A and B is substantially a flow chart of one embodiment of the present invention.

DESCRIPTION OF CERTAIN EMBODIMENTS OF THE PRESENT INVENTION

In the following detailed description of the preferred embodiments, reference is made to the accompanying drawings, which form a part of this application. The drawings show, by way of illustration, specific embodiments in which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural changes may be made without departing from the scope of the present invention.

As shown generally in FIG. 1, one possible embodiment of the present invention for use in building retaining walls that comprise a hollow, prefabricated construction building block, generally indicated by reference number 10. The construction building block or building block 10 is generally comprised of a body 20, which has an exterior 22, which has one or more sides 23. The exterior 22 could also generally define an interior 24, which can generally form an essentially enclosed generally hollow internal cavity 25. In at least one embodiment of the invention, the interior 24 may be further defined as having one or more support members 21 that could be secured to internally brace the body 20. The support member 21 could be panels, partitions, cross bracing and the like, made in a variety of designs, and made from a variety of materials as presently known to the art or which will be known to the art in the future. The support member 21 could be an integral part of the building block 10 or it could be made as a separate component of the building block 10 to be added to the building block 10 post-manufacture. As an article of post manufacture, the support member 21 could be made from different materials than the building block itself 22.

The exterior 60 may be generally defined by several sections 26 (e.g., a front section, generally referenced by numeral 28, a back section generally referenced by numeral 30, a top section generally referenced by numeral 32 and a bottom section generally referenced by numeral 34).

The building block 10 could be made from a wide variety of materials and combination of materials known in the art or which will become known in the art, including but not limited to polyurethane, plastic, plastic cement, carbon fiber, and fiberglass. In at least one version of this embodiment, the building block 10 could be constructed from molded fiberglass-plastic cement composition.

The building block 10 could be constructed in at least one embodiment to have at least a portion of one or more of the sides of its exterior present a facade 36, which resembles a single construction building block or a section of construction building blocks (e.g., a portion of a masonry wall or floor). In at least one embodiment, the building block 10 could have one or more different designs of facades 36 of the same type facade 36 (i.e., brick appearance). In at least one embodiment, the building block 10 could feature a plurality of facades 36, the facades being two or more different types. In at least one embodiment, the building block 10 could be a plurality of facades 36 that could vary in design, type, or combinations thereof.

In this manner, if the building block 10 is built with two or more different types of facade 36 (e.g., stone vs. brick), the operator could select the desired facade 36 of the building block 10 to show on an exposed portion of the structure to be constructed using the building blocks 10. The operator could then orientate and assemble the building blocks 10 into the structure so that the desired facade 36 or combination of facades 36 could be displayed in the assembled structure.

The use of multiple facades 36 in a building block 10 could also provide the manufacturer of the invention with more efficient means of making one type of building block 10 that could be used in the construction of a greater variety of structures with each structure having one or more different facade 36 needs. Similarly, the distributor of the invention could provide its customers with a greater building block variety while having a building block inventory that is much smaller than an inventory predicated on a single facade building block 10. For both entities, the cost of manufacture, storage, distribution, transportation and the like for the building blocks 10 could generally be reduced as compared with the cost for a single facade building block 10.

The interior in at least one embodiment can receive filler 42 post manufacture. The filler 42 could be chosen using knowledge presently known or which will be known in the art as required by a particular application of the invention. The filler 42 could include, but not be limited to particulate matter, liquids, semi-solids and the like. In at least one embodiment, the filler 42 could be cement which could be poured into the interior of the building block 10 and allowed to set. In at least one embodiment, the filler 42 could be added to the building block 10 proximate to or at the construction site where structure that will be using the invention will be constructed. In at least one embodiment, the filler 42 could include insulating matter, such as polyurethane foam, Styrofoam beads and the like.

In at least one embodiment, the building block 10 could have at least one interior access apparatus 40, which could be used to introduce filler 42 into the interior 24 of the building block 10. In at least one embodiment, the interior access apparatus 40 could be an access port 44. Such an access port 44 could generally be comprised of at least one channel or aperture 46 in the body 20, which could connect the exterior 22 to the interior 24, and at least one sealing device 52. The sealing device 52 could be a wide variety of devices that are known or will be known in the art, including but not limited to lock and tab; mutually receiving threads (on the aperture 46 and a plug 47), adhesive, friction fit, fasteners and the like. In at least one embodiment, the sealing device 52 could be permanent or resealable.

As shown generally in FIG. 3, the interior access apparatus 40, in at least one embodiment, could be seen as being embodied in the assembly of the building block 10 itself, where the building block 10 is generally manufactured to be comprised of at least two or more sections 10 (e.g., a top section 32 and a back section 30). In at least one embodiment, the sections 26 could be manufactured as separate components. In at least one embodi-
ment, the sections 26 could be manufactured as components, which are movably connected (e.g., hinged). As such, the sections can later be assembled into one or more building blocks 10. The interior access apparatus 40 could generally further comprise a securing device 52, which could generally lock, either permanently or reversibly, the sections together when the building block 10 is essentially being assembled. In this manner, groups of respective sections 26 may be transported proximate to the construction site for assembly into those building blocks 10, which are to be used in construction of a desired structure.

[0054] One such version of the interior access apparatus 40 could be the building block 10 manufactured in sections 26 that could be assembled to form the building block 10. The sections 26 could be separate, movably connected or the like. The sections 26 could be transported proximate to the construction site and assembled. In the appropriate application, filler 42 is introduced into the internal cavity 25 of the interior 24 by first being selected and then placed respective (e.g., inside) to one or more of the sections 26, either before or during the assembly of the respective sections 26 into building blocks 10. Once the sections 26 are secured together to form the building blocks 10, the filler 42 can be seen as being secured within the internal cavity 25 of the interior 24.

[0055] During or after assembly of the sections 26 into building blocks 10, at least one securing device 52 could be used to lock the respective sections 26 together depending on the needs of the particular application. One or more securing devices 52 could be used for each building block 10. The building block 10, depending upon the needs of a particular embodiment could use one or more different types of securing devices 52. The securing device 52 could be a wide variety of securing mechanisms known in the art or could become known in the future. The format securing device 52 could be separate (added to the building block), unitary (built into the building block 10 or its respective sections 26) or both. Examples of the securing device 52 could include, but not be limited to tab and hole, force fit of leading edges, fasteners, adhesives, cables and the like.

[0056] As shown generally in FIG. 1 and 2, a wide variety of interlocking apparatuses 56 can be used in aiding the assembly of completed building blocks 10 in a desired structure. The interlocking apparatuses 56, both separate and unitary (e.g., built-in) formats, as known to the art presently or in the future, could be used to essentially lock (permanently or reversibly) the building blocks 22 to one another when being assembled into a structure. Some examples of the interlocking apparatuses 56 could include, but not be limited to, fasteners, adhesives, cables and the like.

[0057] At least one embodiment of the interlocking apparatus 56 could include having a protrusion(s) 58 formed on the exterior 10 of one block 10 that could connect to and lock within a reciprocal receptacle(s) 60 on the exterior of another building block 10. In this manner, the design of a building block 10 could have at least one protrusion 58 on one side and at least corresponding receptacle 60 on the other. This could allow a row, column, or both of building blocks 10 to be interlocked. Similarly, a front/back, top/bottom orientation, singularly or in plurality combinations of the protrusion 58 and receptacle 60 could provide attachment for other direction-based rows and columns of interlocked building blocks 10.

[0058] As generally shown in FIG. 3, another version of the interlocking apparatus 40 could be a clip 62 used in conjunction with receiving apertures 64 located on the exterior 22 of the building block 10. In at least one embodiment, the clip 62 could be a wire having a Y-shape with two prongs 66 attached to a stem 68. In this manner, two adjacent building blocks 10, each of which could have an appropriately located and sized receiving apertures 64 (e.g., located on the top of the building block 10) to accept one prong 66 of the clip 62 so the clip 62 could straddle the two building blocks 10 together. The stem 66 could be accepted by a receiving aperture(s) 64 (located on a bottom of a building block 10) of another building block 10, which straddles portions (e.g., top) of the first two building blocks 10.

[0059] As shown generally in FIG. 4, at least one embodiment of the invention could have a ground securing apparatus 70, which essentially helps secure the building block into the ground, foundation, or other selected area upon which the structure will be constructed using the invention. In at least one embodiment, the ground securing apparatus 70 could be a stake 71 having at least two portions. One portion clips onto a part of the building block while the other portion is anchored into the selected area.

[0060] Another version of the ground securing apparatus 70 could be comprised of a generally ground-based vertical member 72, such as pressure-treated wooden post (e.g., a 2x4) and a vertical member receptacle 72 in the building block 22. The vertical member 72 could be partially anchored into the ground or a structure (e.g., a foundation), which is acting to anchor or otherwise secure the invention to the secured area. The unsecured portion of the vertical member 72 could then be retained at least in part by the vertical member receptacle 74.

[0061] The vertical member receptacle 74 could be comprised of at least two parts: a vertical member aperture 76 located on the bottom section 34 of the building block 10 and at least one orientation apparatus 78 located within the interior of the building block 22. The vertical member aperture 76 could be defined by knockout portions 80, which could allow the vertical member aperture 76 to accept vertical members 72 having various diameters or thicknesses. The orientation apparatus 78 could be a plate or a solid plate (not shown). The orientation apparatus 78 could further feature an orientation aperture 80 with knockout sections 82 that could allow an operator to adjust the size of the aperture that could also receive various sized, dimensional vertical members.

[0062] In at least one embodiment, the orientation apparatus 78, is a separately manufactured component of the building block 10, which is generally installed and generally horizontally locked into the internal cavity 25 of the interior 24 using any of a wide variety of securing devices 52 (e.g., fasteners) known to art or which will become known to the art. The interior access apparatus 40 may be used to properly locate the orientation apparatus 78 within the interior 24 of the building block 10 (e.g., use an access port 44 or the assembly of sections 26 into a building block 10).

[0063] In at least one embodiment, the building block 10 has a separate top section 32 with a top surface and an underside, which features a receptacle. When the block is fully assembled, the receptacle is generally located and secured within the internal cavity 25 of the interior 24 of the
building block 10 in axial alignment with the orientation aperture 84 and vertical member aperture 74. The receptacle, when the building block 10 is attached to the vertical member 72, receives at least a portion of the top of the vertical member 72.

[0064] In one embodiment of the ground securing apparatus, the operator could select and anchor at least one vertical member into a selected area. The operator could then make the size adjustments (via knockout section 86 and knockout portions 80) to at least one orientation aperture 84 and at least one orientation vertical member aperture 74 to allow them to receive at least one selected vertical member 72 to the building block 22. Then during assembly of the building block 10 (or using an access port 44), the operator could lock orientation apparatus 78 into place within the internal cavity 25 of the interior 24 of the building block 10. In one version, the separate top section 32 is attached to the remaining body 20 of the building block 10. The operator could slide the building block 10 over the exposed vertical member(s) 72 so that the at least part of the unsecured portion of the vertical member(s) 72 could pass through the properly sized vertical member apertures(s) 76 and the orientation aperture(s) 84 to come to rest within at least a portion of the receptacle 88. The operator could then use a variety of means to fasten (e.g., fasteners) the building block(s) 10 to the vertical member(s) 10. Additionally, the operator could introduce filler 42 into the interior 24, the weight of the filler 42 being used to supplement or act as a ground securing apparatus 70.

[0065] As generally shown in FIG. 5, one retaining wall embodiment of the building block 10 could be built using a plurality of building blocks 10. The building blocks could have the appearance (singular) of one block or have the appearance (sectional) of wall section that appears to be made from a plurality of blocks (sectional). In one version, the building blocks 10 could be an L-shaped building block 91, which could have an “L” shape, comprised of a front section 28 (the foot of the L) and a back section 30 (body of the L). The front section 28 and back sections, both rectangularly shaped, could be joined together. During operation, the L-shaped building block 91 is placed so that front section 28 is the front and the back section is at the bottom. The front section 28 is in a generally vertical position essentially descending from the one end of the back section 30, which is in a generally horizontal portion.

[0066] The L-shaped building blocks 10 could be placed in a vertical column, with several columns located side by side to form the retaining wall. In this manner, the building blocks 10 could form generally enclosed external cavities 90 between the back sections 30 of the stacked building blocks 10 located in a column. These external cavities 90 could extend over the respective row of building blocks 10 when several columns of the building blocks are adjacent to one another.

[0067] In at least one version of this embodiment, filler 42 could generally be added to the external cavities 90 to generally provide weight, which is generally used in holding the assembled retainer wall in place against the retained earthen work, as well as possibly providing essentially horizontal structural support to help holding up the back sections 30 of the building blocks 10 that are contained in a column. As discussed above, filler 42 could be selected and introduced to the interior 24 to possibly provide weight and support both for the assembled structure and for the purpose for which it is being constructed (e.g., holding back earthen works). It is also seen that this embodiment could use other elements, including but not limited to, interior access apparatus(es) 40, interlocking device(s) 56 (e.g., holding adjacent columns of building blocks 10 together), a ground-securing apparatus(es) 70, facade(s) 36 and the like.

[0068] As generally shown in FIG. 6, another retaining wall embodiment of the building block 10 (either singular or sectional type) could be a Z-shaped building block 92 having an essentially horizontally oriented “Z” shape. The Z-shaped building block 92 could comprise essentially of three generally rectangular portions 94: a descending front portion 96 (in a generally vertical orientation), a middle portion 98 (generally deposed in a horizontal position), and an ascending back portion 100. Used in conjunction with this building block 10 could be other building blocks 10: a base 110 (e.g., an “L”-shaped building block 91) and a cap building block 112.

[0069] When these three types of building blocks 10 are generally assembled into a column, the base 110 could be essentially placed at the bottom of the column so that the leg of the L could be projecting generally upwards at the front of the column. A Z-shaped building block 92 could be stacked on the base 110 whereby the ascending back portion 96 could be placed in front while the descending back portion 100 could be oriented to the rear. In this manner, the first Z-shaped building block 92 could have its ascending front portion 96 resting on the foot of the “L” of the base 110, while the descending back portion 100 could be resting on the back of the stem of the “L” portion of the base 110. The Z-shaped block and the base could form an external cavity 90 into which filler 42 could be introduced. Other Z-shaped building blocks 92 are stacked on top of the first Z-shaped building block 92 in the same orientation as the first Z-shaped building block 92. At the top of the stack 114, the cap could have a shape that fits into and fills the top 32 Z-building block 92. In at least one embodiment, the cap 112 could provide a front lip 116.

[0070] In at least one embodiment, both ascending front portion 96 and the descending back portion could face outward facing exteriors, which display decorative facades 36. In this manner, the operator could have a multiple choice of facades 36, facade arrangements and faced types to display by rotating over and turning around one or more of the Z-shaped blocks 92 while assembling the desired structure.

[0071] As discussed above, filler 42 could be selected and introduced to the interior 24 of one or more of the various building blocks 10 used in this embodiment to possibly provide weight and structural support both for the desired assembled structure and for the purpose for which it is being constructed (e.g., holding back earthen works). It is also seen that this embodiment could make use of other elements, including but not limited to, interior access apparatus(es) 40, interlocking device(s) 56 (e.g., holding adjacent columns of building blocks 10 together), a ground-securing apparatus(es) 70, facade(s) 36 and the like.

[0072] As generally shown in FIG. 7, another embodiment of the invention could be used to provide furniture type structures, for example such as a table 120 (e.g., an outdoor
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patio table), which has a masonry appearance. Such a table 120 could be comprised of at least a tabletop 122 and a support pillar 124. The tabletop 122 could also be a building block 10 with suitable facades 36 or it could be a tabletop 122 made from standard tabletop materials such as wood, laminates, marble, granite, resin-based composites, and the like. The support pillar 124 could have a wide variety of shapes, sizes, and facades 36. The support pillar 124 could be made from one or more building blocks 10. In at least one combination, the support pillar 124 is a single building block 10 with a generally rectangular shape with sides 120 supporting one or more facades 36; a bottom 128 which rests upon the ground or other foundation; and a top 130 which supports the tabletop 122. Any one of a wide variety of interlocking devices 56 could be used to secure the tabletop to the top of the pillar reversibly and otherwise. Any one of a wide variety of fastening means could be used to secure a non-building block tabletop to the top of the support pillar 124 reversibly and otherwise.

[0073] Various ground securing devices 70, as discussed above, could be used to secure the table 120 in its proper upright position. In addition to or instead of the ground securing devices 70, filler 42 could also be added to the invention (e.g., to the interior 24 of the support pillar 124) to provide stabilizing and securing weight to the table 120. It is also seen that the table 120 could be constructed to be modular (e.g., make use of interlocking devices 56) to be connectable to other similar building block 10-based structures, which could contain and support facilities such as a barbecue, an outdoor fireplace, outdoor stove, wet bar, multimedia theater system and the like. It is also seen that this embodiment could make use of other elements, including but not limited to, interior access apparatus(es) 40, facade(s) 36, and the like.

[0074] As generally shown in FIG. 8, one embodiment of the building block 10 could be a slab-shaped building block 132 that could be constructed to fulfill a variety of applications. This slab-shaped building block 132 could be comprised of a front 134, back 136, and sides 138. As discussed above, filler 42 could be selected and introduced to the interior 24 of one or more of the building blocks 10 used in this embodiment to possibly provide weight and structural support both for the invention’s own structure and for the purpose for which it is being constructed. It is also seen that this embodiment could make use of other elements, including but not limited to, interior access apparatus(es) 40, interlocking device(s) 56 (e.g., holding adjacent columns of building blocks 10 together), a ground-securing apparatus(es) 70, facade(s) 36, and the like.

[0075] As generally shown in FIG. 9, one version of this embodiment could use the slab building block 132 as an essentially horizontally-oriented support surface, such as a sectional flooring (e.g., patio flooring, a stone like pathway, walkways and the like). In this version, an interior access apparatus(es) 40 is used whereby at least one side 138, an access side 140 is constructed to allow access to the interior 24 of the slab building block 132. This could be accomplished by having at least one access side 140 separate from or movably connected to the remaining body 20 of the slab building block 132. In this manner, the operator could hold the slab building block 132 upright so filler 42 could then be introduced into the internal cavity 25 of the interior 24 through the opening that could normally be sealed on the side 124. Once suitably filled, the access side 140 could be appropriately secured to the remaining body 20. The operator could then lay flat the completed building block 132 upon a suitably prepared selected area. The filler 42 could provide weight as well as possibly provide structural assistance to the weight bearing capabilities of the slab building block 132. In at least one embodiment, the exterior 22 of the slab building block 132 could support one or more facades 36 (e.g., cobblestone, flagstone, slate, etc.) to give the operator a choice of appearances for the completed support surface.

[0076] As generally shown in FIG. 10, is another embodiment of the slab building block 132. could be a decorative covering 142 rather than a structural device. In this manner, the slab building block 132 could be mounted upon supports such as a wall or framework 144, which could provide the load-bearing element in the structure. In one version of the embodiment, the slab building block 132 is attached to framework 144 supporting kitchen utilities (stove, oven 145, cabinets, table top counter, etc.) In at least one version of the embodiment, the slab building blocks 132 could feature at least one or more facades 36 on at least one or more portions of the exterior of the slab building block 132. In this manner, a residence or other housing structure could have elements of a kitchen interior and an outdoor furniture system, as described-above, which share similar facades 36.

[0077] As shown essentially in FIG. 11, the slab building block 132 could also be used to impart a wide variety of facades 36 to an exterior of a residence or other building structures. In this manner, the slab building block 132 could be mounted upon an essentially vertically prepared surface such as walls 146. The sides 138 of the slab building block 132 could use interlocking devices 56 with which to connect with other similar slab building blocks 132 to present an essentially seamless appearance. The front and back of slab building block 132 could feature different versions of the same type of facade 36 to allow the operator to create an overall facade 36 appearance that generally does not appear to the eye to be repeating subunits. Fasteners 148 could penetrate at least a portion of the slab building block 132 to attach it to the wall 146 or other desired surface. Facade decorated caps 150 could be used to cover any slab apertures 152 that the fasteners 148 pass through to connect the slab building block 132 to the wall 146.

[0078] As generally shown in FIG. 12, one embodiment of the building block 10 could be a marker building block 160. One version of this marker 160 could be a tombstone 162 wherein at least a portion of the exterior 22 of the marker building block 160 sports a facade 36, which mimics a regular tombstone exterior. At least one portion of the facade 36 could accordingly also feature traditional tombstone indicia 164 indicating the deceased’s identification, date of death and the alike. The securing of the marker building block 160 in the proper orientation could be accomplished utilizing the ground securing apparatus 70 as discussed above, wherein a vertical member 72 is partially secured in the selected area and the tombstone is secured to the vertical member 72, as discussed above. Filler 42 could be introduced post manufacture into the internal cavity 25 of the interior 24 to lend its weight in securing the marker building block 160 to the selected site.

[0079] As generally shown in FIG. 13, another embodiment of the invention could be a pillar-shaped building block
which features a top 302, a bottom section 304 with multiple sides (e.g., four) 306. At least one side 306 could be supporting at least one facade 36. In at least one version, at least one side 306 could be supporting one sign 170. In at least one version, at least one side 306 could be supporting at least one facade 36 bearing a sign 310.

[0080] In at least one embodiment, the top 302 of the pillar-shaped building block 300 could be a top section 32 that could connect (fixably or moveably) to the bottom section 304. The top section 32 in conjunction with the bottom section 304 could form an interior access apparatus 40, which could seal an opening 312, allowing access to the interior 24 and internal cavity 25 of the pillar-shaped building block 300. This interior access apparatus 40 could be used to introduce filler 42 into the interior 24/inner cavity 25 to add weight to pillar-shaped building block 300 for stabilization and ground securing purposes. The interior access apparatus 40 could also be used to access the interior 24/inner cavity 25 to help the operator attach various secondary items to the pillar-shaped building block 300 such as user interface devices(s) 308 (e.g., intercommunication system, gate opening mechanism, security mechanisms, a sign 310 and the like).

[0081] At least one embodiment of the pillar-shaped building block 300 could have at least one interior access apparatus 40, which could be further comprised of one or more access ports 44. The pillar-shaped building block 300 could be used singularly or modularly and could be used in conjunction with one or more items, such as a support pillar for a structure, a mailbox, a lamppost, a waste receptacle, fencing, or a gate.

[0082] In one embodiment, the pillar-shaped building block 300 could be a mailbox (not shown) whereby the body 20 of the pillar-shaped building block 22 supports and contains most of a secondary receptacle for holding objects, namely a commercially available mailbox. At least one side of the pillar-shaped building block 300 could feature the main opening or access to the mailbox where the mail carrier could gain access to the mailbox. In other embodiments of the mailbox, the internal cavity 25 of the pillar-shaped mailbox could contain or itself could form a mail receptacle for receiving mail (not shown). At least one interior access apparatus 40 could be used to allow access to the mail receptacle 20 for the placement and retrieving of mail. This embodiment could also have one or more user interface devices(s) 308. Filler 42 could also be introduced into at least a portion of the internal cavity 25 of the interior 24 for stabilization and ground-securing purposes.

[0083] In one embodiment, the pillar-shaped building block 300 could be a waste receptacle (not shown). In this embodiment, the top 302 or one of the sides 306 could feature one or more apertures through which waste could be introduced into the internal cavity 25. The internal cavity 25 could receive in to at least a portion of the internal cavity 25 a secondary receptacle for holding objects such as a waste-basket or other suitable container for holding waste. The top could be movably connected to the bottom section 304 to act as an interior access apparatus 40 to allow the operator or others to clean, and if necessary, remove the waste receptacle from the pillar-shaped building block 300. This embodiment could also have one or more user interface devices(s) 308. Filler 42 could be introduced into at least a portion of the cavity for stabilization and ground securing purposes.

[0084] In one embodiment, (not shown) one or more pillar-shaped building blocks 300 could be used to form at least a portion of fence, wherein sections of fence (e.g., metal, wood, chain link, and the like) could be suspended between pillar-shaped building blocks 300. In one such embodiment, the fence sections have their own upright supports (e.g., posts) that are secured in prepared area to hold the applicable section(s) of fence. In that embodiment, one or more pillar-shaped building blocks 300 are placed adjacent to the sections of fence to generally close any unwanted openings between the section(s) of fencing.

[0085] In other embodiments, (not shown), one or more pillar-shaped building blocks 300, in addition to being attach to, supporting or encompassing a fence structure could attach to other structures made form the building block as well as be incorporated with one or more gates, one or more lampposts, one or more support pillars, one or more user interface devices 308 and the like.

[0086] In one embodiment, (not shown) one or more pillar-shaped building blocks 300 could be used to form a base for a pillar. In this manner, the pillar-shaped building block could have at least one aperture to accept a portion of a pillar that is used to support a structure or acts as a decorative non-supporting element of a structure. In one version, the pillar-shaped building block 300 could be made in sections 26 and could be assembled around at least one pillar that is secured to a prepared area. In another version, the pillar-shaped building block 300 is made to receive at least a portion of at least one or more pillars. The pillar-shaped building block 300 may further allow a portion of one or more pillars to pass through the pillar-shaped building block 300 to be secured into the prepared area. The pillar-shaped building block 300, in conjunction with a support pillar, could further incorporate one or more gates, one or more lampposts, and one or more user interface devices 308 and the like.

[0087] As generally shown in FIG. 14, another sign embodiment could be a commercial sign comprised of several building blocks 10. These building blocks could include a sign base 180 generally supporting one or more upright supports 182 and a sign building block 172 suspended by one or more of the upright supports 182. In at least one version of this embodiment, the upright supports 182 could also be building blocks 10. In such instances, the upright support 182 could also feature a facade 36 mimicking a wooden structure such as one or more logs.

[0088] In one version of the embodiment, the sign base building block 180 could be modular with interlocking devices 56 to form with other building blocks 10 a wide variety of structures. These structures could be sign base building block 180 attached to one or more building blocks 20, which resemble pillars, fountains and the like. The sign base building block 180 could be secured to the ground by weight of added filler 42, ground securing apparatus 70 and the like. The sign base building block 180 could also have at least one facade 36 (e.g., one resembling a rock outcropping).

[0089] The upright supports 182 could be anchored in either the selected area, the sign base building block 180, or
both. Where the upright supports 182 are anchored in the
selected area, the sign base building blocks 180 could
incorporate at least a portion of the upright supports 182 as
a ground securing apparatus 70 for the sign base building
block 180. In one such version, a portion of at least one
upright support 182 could pass through the body 20 of
the sign base building block 180 to be anchored into the selected
area upon which the sign base building block 180 rests. The
upright support 182 could pass through orientation aperture
84 and orientation apparatus 78 located in the interior 24 of
sign base building block 180. This orientation apparatus 78
could help locate the upright supports in their proper posi-
tion. Fasteners, interlocking devices, or other means could
be used to secure the sign base building block 180 to one or
more anchored upright supports 182.

Alternatively or in addition to, the sign base building
block 180 could secure portions of one or more upright
supports 182 without any portion of any upright support 182
passing through sign base building block 180 into the
selected area. The sign base building block 180 could utilize
one or more ground securing apparatuses 70 to anchor the
sign base building block 180 to the selected area. A portion
of one or more upright supports 182 could pass through the
top section 32 of the sign base building block 180 through
or into an orientation apparatus 78, which helps properly
locate in the proper position one or more upright supports
182 into the sign base building block 180. Fasteners, inter-
locking devices 56 or other means could be used to secure
one or more upright supports 182 to an anchored sign base
building block 180.

In at least one version, the sign building block 172
could attach externally to at least one upright support 182 by
a variety of means including interlocking devices 56. The
sign building block 172 could also accept at least a portion
of at least one upright support within its interior. There a
portion of the upright support 182 could engage at least one
orientation apparatus 78 located in the interior 24 of the sign
building block 172 in a manner described above. A variety
of means including interlocking devices 56 could be used to
secure the upright support to the sign building block 172.

At least a portion of the exterior 22 of the sign
building block 172 could feature indicia, designs and the like
to present information of various types to a viewer.

It should be further noted that other embodiments of
the invention could be used to provide or be adopted to
provide planters, pillars and posts for gates, decorative
devices to cover or disguise other devices (e.g., such as water
outlet for garden), storage devices and the like.

As generally shown in FIG. 15, essentially a flow
chart 200, one embodiment of the operation of the invention
could comprise the following steps. The first step 202 could
be the selection of the type and size structure (along with
exterior facade(s) selection); the building site; and the
building blocks 10 to be used. The second step 204 could be
the gathering and organizing of the required building blocks
10 (e.g., individual building blocks 22 building block sec-
tions 26, etc.) and related appropriate accoutrements (e.g.,
instructions, ground securing devices 70, interlocking
devices 56, and the like) needed to build the selected
structure. The third step 206 could be the transportation of
the above-described organized supplies to an assembly site
(the construction site or possibly proximate to it).

If interior filler 42 or other weight-inducing ele-
ments are to be used with the invention, the organized
supplies assembly site could be the actual construction site
where the desired or selected structure is to be built. If filler
42 or other weight-inducing elements are not to be used with
the invention, the assembly site could also be a site prox-
imate to the actual construction site, wherein the selected
structure (e.g., a completed structure or assembled portions
of the structure) could be later transported to the construc-
tion site.

The fourth step 208 could be determining if one
ground-securing apparatus 70 could be used. If yes, the
procedure proceeds to the fifth step 210 determining if any
ground-based vertical member will be used. If not, the
procedure passes on to the sixth step 212 determining
whether sectional-based or completed building blocks 10
will be used.

At the fifth step 210, if the answer is yes, the
procedure continues to the fifth A step 212, where the
selecting and installing of the ground-base vertical members
occurs. After the completion of the fifth A step 212, or if the
answer is no at fifth step 210, the procedure continues to the
sixth step 214, which comprises of determining whether any
portion-based building blocks 10 are being used.

If at the sixth step 214, no sectional-based building
blocks 10 are being used, the procedure continues onto the
seventh step 216, determining if filler 42 for an external cav-
ity(ies) 90 is being used. If at sixth step 214, sectional-
based building blocks 10 are not being used, then the
procedure passes onto the seventh step 216, determining if
filler 42 shall be introduced to the interior 24.

If yes at the seventh step 216, the procedure passes
onto the seventh A step 218, selection of filler to be used in
the interior 24. After the completion of the seventh A step
218, the procedure continues onto the completion of the
seventh B step 220, which is the assembly of section 26 and
with filler 42 into building blocks 10 before proceeding onto
the eighth step 222, determining if filler 42 is to be placed
into any formed external cavity(ies) 90.

If no at the seventh step 216, the procedure passes
onto the seventh C step 224, the assembly of sections 26 into
building blocks 10 without filler 42 placed in the interior 24.
After completion of the seventh C step 224, the procedure
also passes onto the eighth step 222.

At the eighth step 222, if filler 42 is to be placed in
external cavities 90 in the assembly of the structure, then the
procedure passes onto the eighth A step 226, which is the
assembly of building blocks 10 into the selected structure
using filler 40 placed into any formed external cavities 90.
If filler 40 is placed into any formed external cavities 90,
then the process proceeds to the eighth B step 228, which is
the assembly of building blocks 10 together into a structure
without filler 40 placed into any formed external cavities 90.
Both steps, the eighth A and B, 226, 228, jointly have several
shared substeps: the ninth B 232, the ninth C 234, the ninth
D 236, the ninth E 238 and the ninth F 240, which the
procedure can possibly pass through to proceed to the tenth
and final step 150 inspecting the completed structure.

Ninth A substep 230 is not shared between eighth
A and B steps, 226, 228 in that the ninth A substep 230 can
only be accessed if the procedure is passing through the
eighth A step 226. Ninth A substep 230 is adding of filler 42 to the external cavities 90 formed by a plurality of building blocks 10. After the completion of the ninth A substep 230, the program proceeds to the tenth step 250, the inspecting the completed selected structure.

[0103] Ninth B substep 232 is the adding of filler 42 to the interior 22 of one building block 10 which had not had filler 42 added to it before.

[0104] Ninth C substep 234 is the securing of at least one building block 10 to the ground or foundation utilizing at least one ground-securing device 70.

[0105] Ninth D substep 236 is the securing of one or more building blocks 10 together using at least one interlocking device 56.

[0106] Ninth E substep 238 is the orienting of one or more building blocks 10 to display at least one surface possessing a desired facade 36.

[0107] Ninth F substep 240 is the installation of desired, mechanical, electrical, or other devices into the desired structure.

[0108] At the on completion of one or more of the shared substeps ninth B 232, ninth C 234, ninth D 236, ninth E 238 and ninth F 240, the procedure moves to the tenth step 250, which is generally the final step of essentially inspecting the structure as it is completed with the construction building blocks 10.

CONCLUSION

[0109] Although the description above contains many specifications, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. Thus, the scope of the invention should be determined by the appended claims and their legal equivalents rather than by the examples given.

What is claimed is:

1. A construction building block comprising:

   A) at least one body having an exterior and an interior, the exterior generally defining the interior with at least a portion of the interior being hollow to form a generally enclosed interior cavity, at least a portion of the interior cavity being capable of receiving filler post-manufacture through an interior access apparatus;

   B) at least a portion of the exterior presenting a facade; and

   C) the body being capable of being assembled together with at least one another body to form a structure.

2. A construction building block of claim 1 wherein the cavity receives filler post-manufacture.

3. A construction building block of claim 1 wherein interior access apparatus is comprised of the body having sections which are assembled together to form the interior with the cavity.

4. A construction building block of claim 3 wherein the cavity secures filler when the sections are assembled together.

5. A construction building block of claim 3 wherein the sections are assembled together using at least one securing device.

6. A construction building block of claim 1 wherein interior access apparatus comprises at least one port access.

7. A construction building block of claim 2 wherein the body encompasses at least a portion of a pillar.

8. A construction building block of claim 2 wherein the filler is used to secure the body relative to the assembled structure.

9. A construction building block of claim 1 wherein the facade resembles the exterior of a tombstone.

10. A construction building block of claim 1 wherein the body further comprises at least one interlocking device.

11. A construction building block of claim 10 wherein an interlocking device comprises of at least a clip, a portion of which can be received into at least one aperture located in the body.

12. A construction building block of claim 1 wherein the structure forms at least one generally enclosed external cavity.

13. A construction building block of claim 1 wherein the enclosed external cavity can receive filler.

14. A construction building block of claim 1 wherein the body has a generally slab shape.

15. A construction building block of claim 14 wherein the body is attached to a wall.

16. A construction building block of claim 14 wherein the body is attached to a framework.

17. A construction building block of claim 16 wherein the framework further supports at least one utility of a set of utilities consisting of: a barbeque, an open fire pit, a media center, a storage facility, a sink, a stove, and an oven.

18. A construction building block of claim 1 wherein the structure is furniture.

19. A construction building block of claim 1 wherein the interior is further comprised of at least one orientation apparatus.

20. A construction building block of claim 19 wherein the body is attached to a lamp post.

21. A construction building block of claim 1 wherein the interior is further comprised of at least one support member.

22. A construction building block of claim 1 wherein the internal cavity further contains at least a portion of a secondary receptacle.

23. A construction building block for making markers comprising:

   a. a pluralities of bodies, each body having an exterior which generally defines an exterior interior, a portion of the interior forming a generally enclosed cavity;

   b. the cavity being capable of receiving filler through the interior access apparatus;

   c. at least one body comprising a base; and

   d. at least one body which forms a sign, the sign being connected to the base.

24. A construction building block of claim 23 further comprising at least one upright support that connects the base to the sign.

25. A construction building block of claim 23 wherein at least one body is an upright support.

26. A construction building block of claim 23 wherein a portion of exterior which has a facade.
27. A construction building block of claim 24 wherein at least a portion of upright support is anchored into a ground.
28. A construction building block of claim 27 wherein at least a portion of at least one upright support member passes through the base.
29. A construction building block of claim 22 further comprises of electrical devices attached to at least one body.
30. A method of assembling hollow building blocks into a structure comprising, the invention not necessarily limited to the order of steps shown below:
a. providing at least one hollow building block with an exterior which generally defines an interior, at least a portion of the interior forming an accessible enclosed hollow internal cavity and at least a portion of the exterior features at least one facade;
b. securing at least one hollow building block;
c. interlocking a plurality of hollow building blocks; and
d. introducing filler post-manufacture into at least a portion of the interior cavity.

31. A method of assembling hollow building blocks of claim 30 wherein the building block is comprised of multiple sections.
32. A method of assembling hollow building blocks of claim 31 further comprises of assembling the sections with filler.
33. A method of assembling hollow building blocks of claim 32 further comprises of assembling sections with at least one securing device.
34. A method of assembling hollow building blocks of claim 30 further comprises of creating at least one external cavity between a plurality of hollow building blocks.
35. A method of assembling hollow building blocks of claim 34 further comprises of introducing filler into the external cavity.
36. A method of assembling hollow building blocks of claim 30 further comprises of the orientating the building blocks to display a desired facade.

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