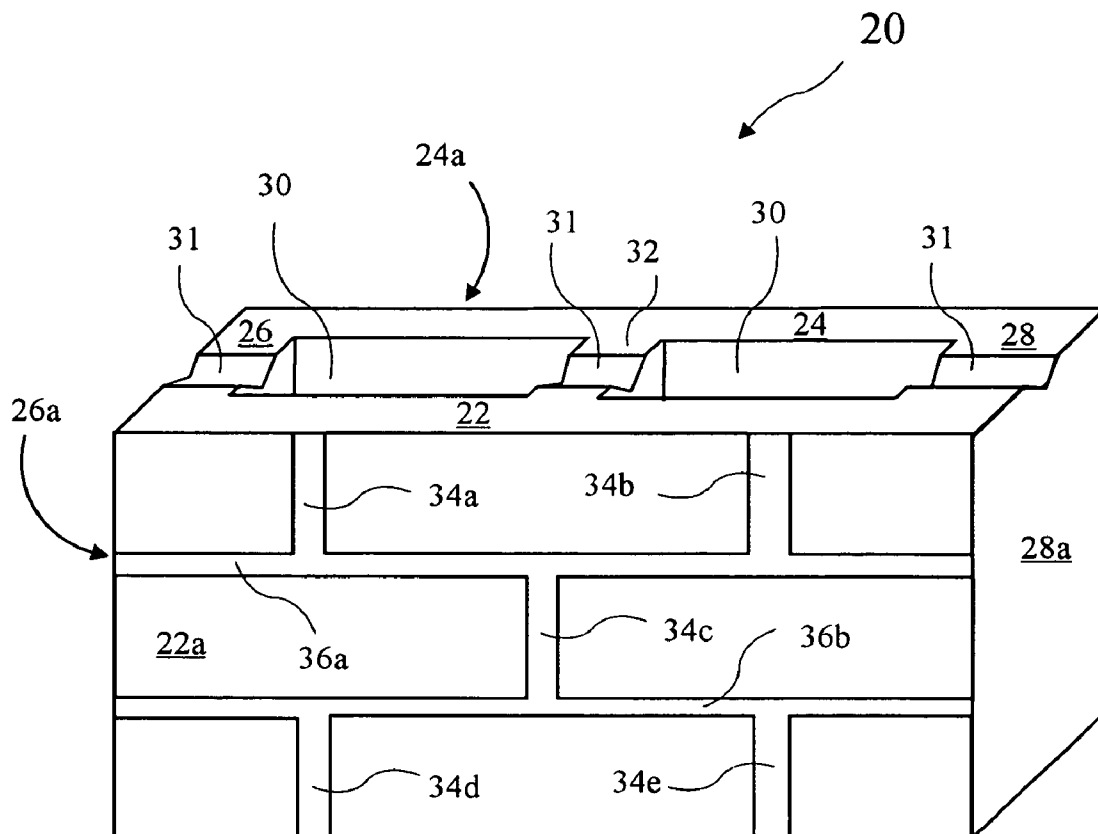


(12) **Patent Application Publication** (10) Pub. No.: US 2005/0257466 A1
Tabeshnekoo (43) Pub. Date: Nov. 24, 2005

(10) **Pub. No.: US 2005/0257466 A1**

(43) **Pub. Date:** **Nov. 24, 2005**



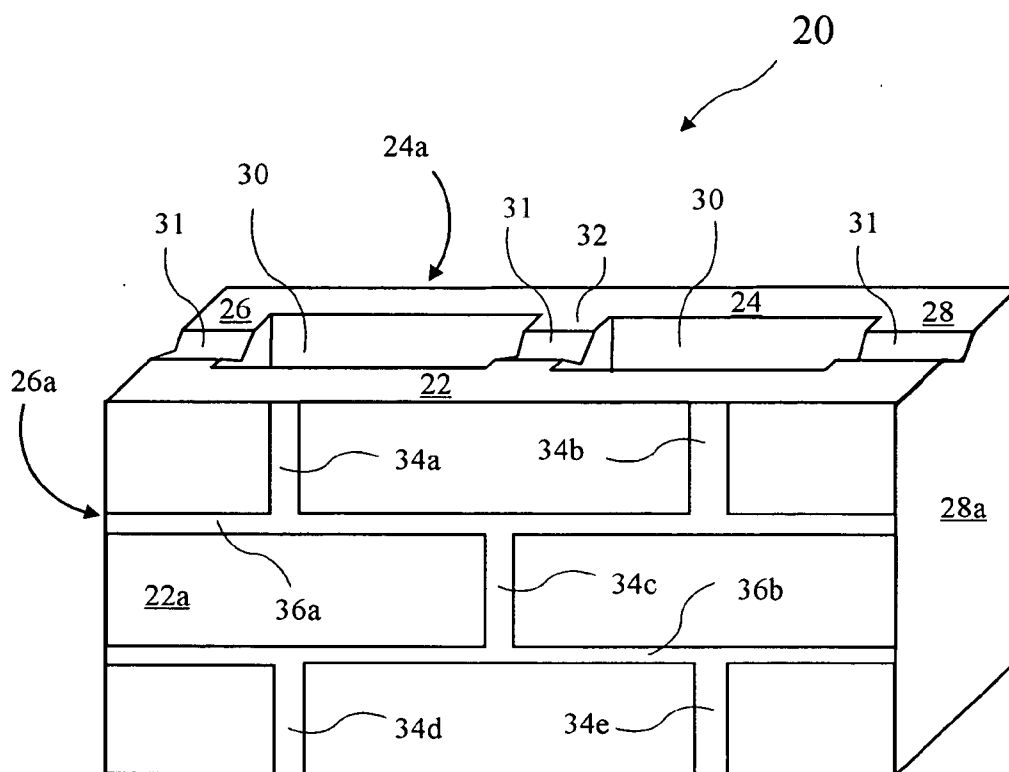


FIG. 1A

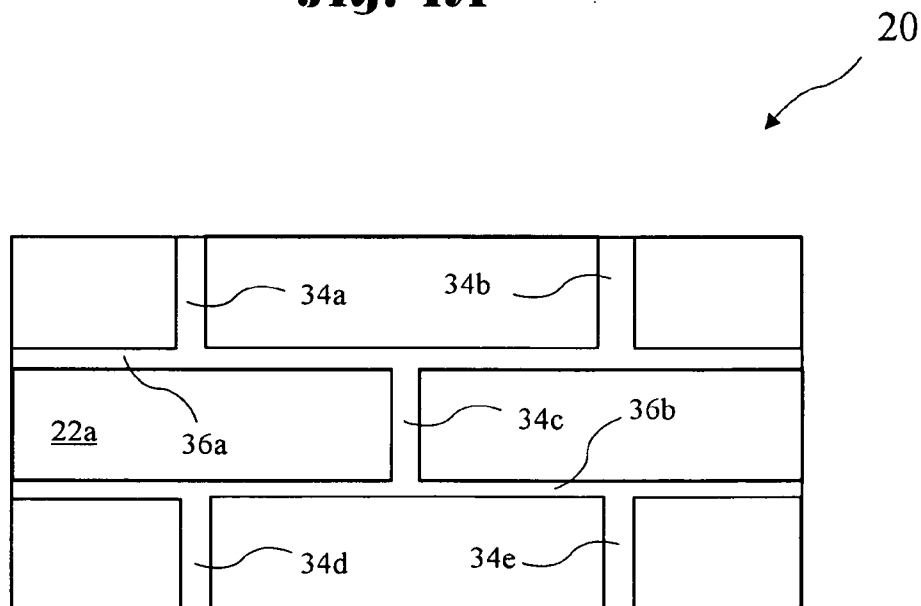


FIG. 1B

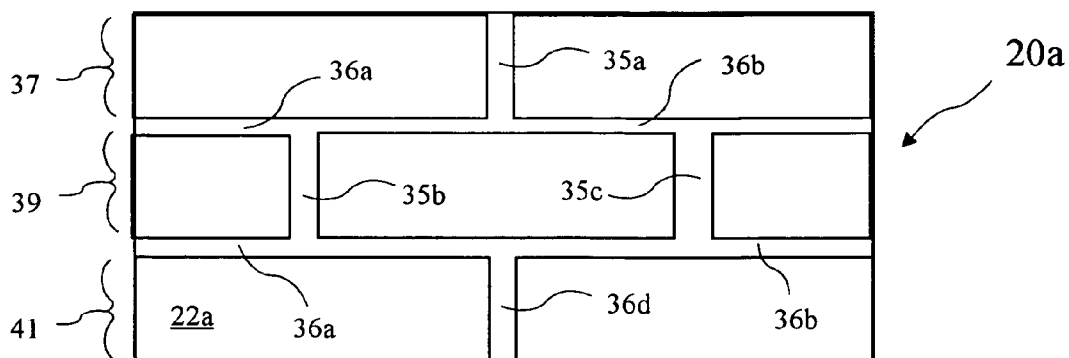


FIG. 2

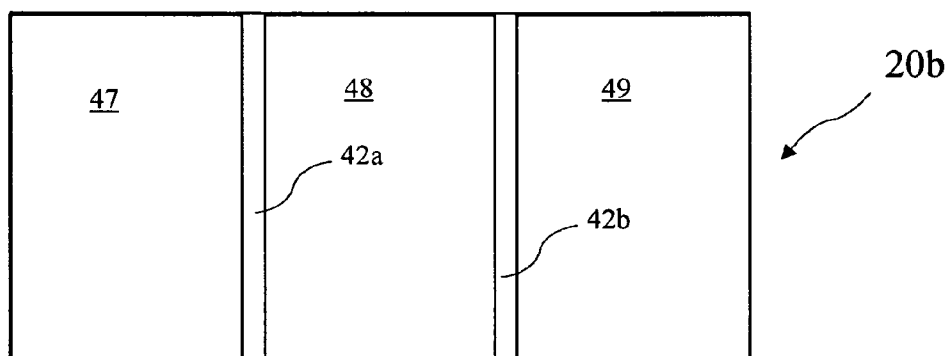


FIG. 3

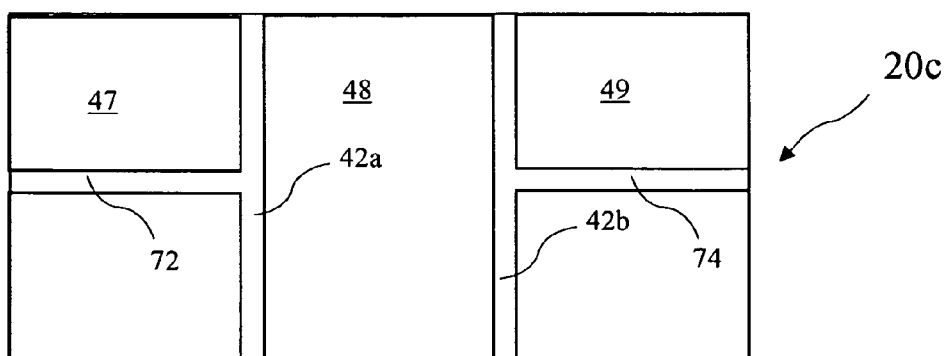


FIG. 4

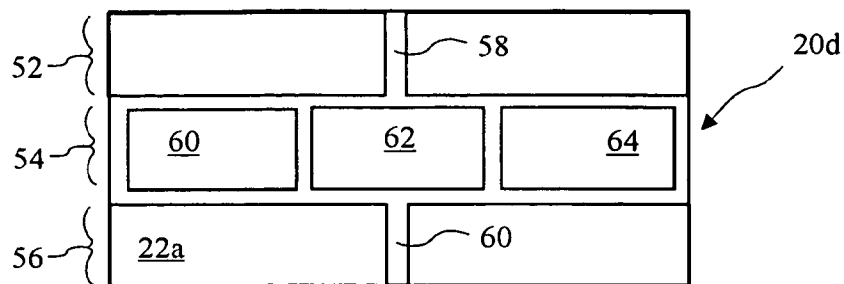


FIG. 5

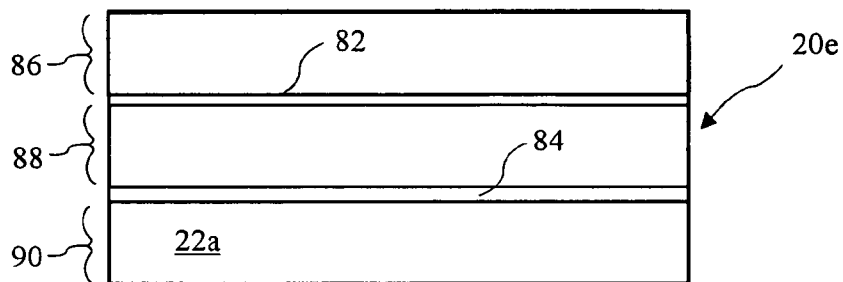


FIG. 6

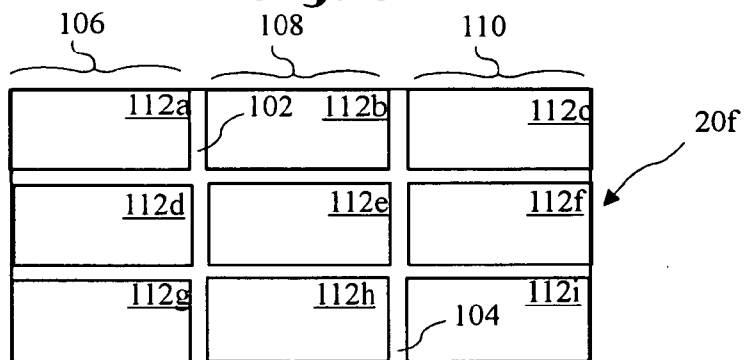


FIG. 7

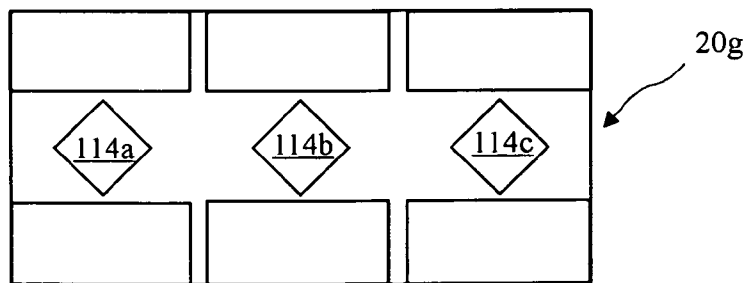


FIG. 8

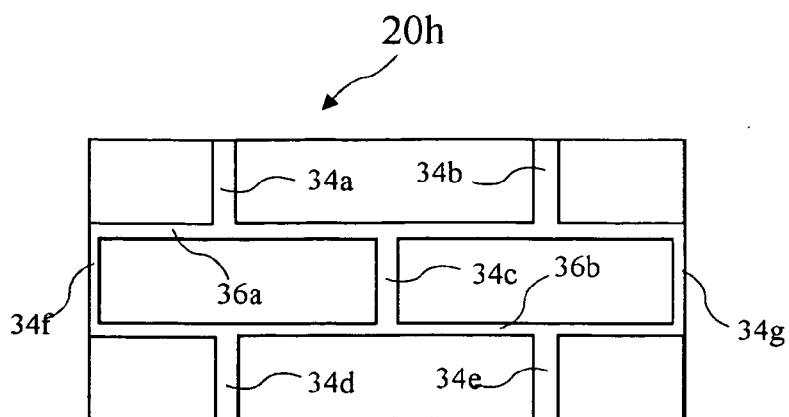


FIG. 9

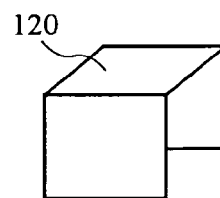


FIG. 10A



FIG. 10B

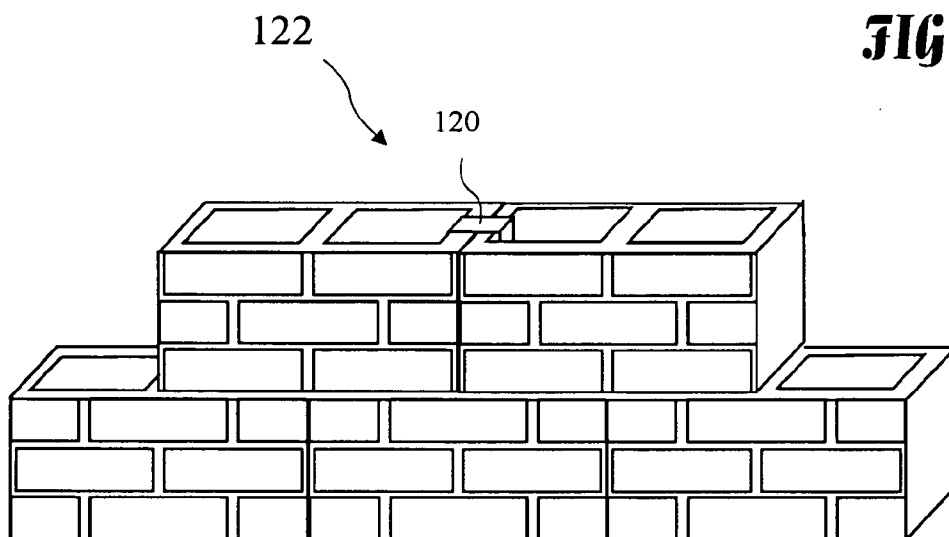


FIG. 11

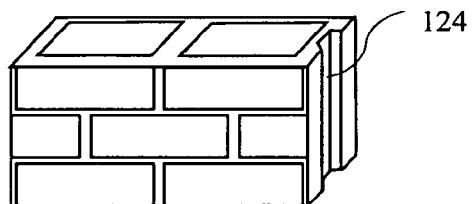


FIG. 12

BUILDING MATERIAL

[0001] The present application claims the benefit of U.S. Provisional Application Ser. No. 60/569,221, filed May 7, 2004, which application is incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to building materials, and in particular, construction blocks used to construct block structures such as buildings, walls, barriers, foundations, or the like.

[0003] Walls are often made of either concrete blocks or bricks. For example, some walls are made by digging a trench, pouring a concrete footing inside the trench, laying a first course of blocks onto the footing, and vertically stacking additional courses of concrete blocks on top of each other, and using mortar in between blocks to attach the blocks to each other. Steel rods (e.g. steel reinforcing bar known as rebar) may be inserted vertically through hollow interiors of the concrete blocks and horizontally between courses of the blocks for structural support, and the hollow interiors of the blocks may be filled with concrete for greater strength.

[0004] Some walls have a lay of bricks over plain concrete blocks to form a facade to improve the appearance of the wall. The bricks are individually laid by hand with the use of mortar or adhesives known in the art. The process of brick laying is time consuming, labor intensive, and requires additional materials (e.g., bricks and mortar). A faster and less labor-intensive system for creating the impression of a brick facade is desired.

BRIEF SUMMARY OF THE INVENTION

[0005] The present invention provides a method for constructing a block wall having the appearance of a brick facade. The method includes providing a plurality of concrete blocks. Each of the blocks includes a front wall, a rear wall, a left sidewall, and a right side wall. The front wall has an exposed front face and the rear wall has an exposed rear face. The method includes forming at least one groove on at least one of the faces of each of the blocks, or providing blocks having grooves on at least one of the faces of each of the blocks. The concrete blocks are attached to each other to form a block structure. The faces of the plurality of concrete blocks preferably form a facade, and the grooves on each of the blocks provide an impression that the facade comprises a plurality of bricks.

[0006] In accordance with one aspect of the invention, there is provided a block for construction of a block structure, for example, a block wall or the like. The block includes a front wall having a front face, a rear wall having a rear face, a left sidewall having a left face, and a right sidewall having a right face. At least one of the faces includes at least one groove, the grooves are configured to provide an impression that the block structure is constructed from a plurality of smaller blocks, for example, bricks.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0007] The above and other aspects, features and advantages of the present invention will be more apparent from the

following more particular description thereof, presented in conjunction with the following drawings wherein:

[0008] **FIG. 1A** is substantially a right perspective view of one embodiment of the building block of the present invention.

[0009] **FIG. 1B** is substantially a front view of the embodiment of the building block shown in **FIG. 1A**.

[0010] **FIG. 2** is a front view of a second embodiment of the building block of the present invention.

[0011] **FIG. 3** is a front view of a third embodiment of the building block of the present invention.

[0012] **FIG. 4** is substantially a front view of a fourth embodiment of the building block of the present invention.

[0013] **FIG. 5** is a front view of a fifth embodiment of the building block of the present invention.

[0014] **FIG. 6** is a front view of a sixth embodiment of the building block of the present invention.

[0015] **FIG. 7** is a front view of a seventh embodiment of the building block of the present invention.

[0016] **FIG. 8** is a front view of an eighth embodiment of the building block of the present invention.

[0017] **FIG. 9** is a front view of a ninth embodiment of the building block of the present invention.

[0018] **FIG. 10A** is a perspective view of a clip for connecting blocks according to the present invention.

[0019] **FIG. 10B** is an end view of the clip for connecting blocks according to the present invention.

[0020] **FIG. 11** is a partial view of a structure constructed using bricks according to the present invention.

[0021] **FIG. 12** is a perspective view of a block according to the present invention with an end notch for mortar.

[0022] Corresponding reference characters indicate corresponding components throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0023] The following description is of the best mode presently contemplated for carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of describing one or more preferred embodiments of the invention. The scope of the invention should be determined with reference to the claims.

[0024] A right front perspective view of a building block **20** according to the present invention is shown in **FIG. 1A**, and a front view of the building block **20** is shown in **FIG. 1B**. A multiplicity of the building block **20** may be used to construct block structures, for example, buildings, walls, barriers, foundations, and the like. The building block **20** includes a front wall **22**, a rear wall **24**, a left sidewall **26**, and a right side wall **28**. Walls **22**, **24**, **26**, and **28** preferably define a hollow interior **30**. The hollow interior **30** is preferably divided into two sections by an interior wall **32** which is attached substantially perpendicularly to the front wall **22** and rear wall **24**. The interior wall **32** is preferably positioned substantially centrally between the right side wall

28 and the left sidewall **26**. The front wall **22** has a front face **22a**, the rear wall **24** has a rear face **24a**, the left sidewall **26** has a left face **26a**, and the right sidewall **28** has a right face **28a**. A rebar notch **31** may be provided in tops of the walls **26**, **28**, and **30** to allow a horizontal run of rebar to tie columns of the blocks **20** together. The notches **30** are preferably large enough to allow the rebar to be surrounded by concrete and/or mortar for added strength. Typically, horizontal rebar runs are vertically spaced apart at, for example three feet, and preferably two horizontal runs of rebar are used in a wall.

[0025] With continuing reference to **FIGS. 1A and 1B**, the building block **20** includes at least one groove on the front face **22a** to provide an impression of more than one smaller block. In one embodiment, the front face **22a** of building block **20** preferably includes a plurality of vertical grooves **34a-34e** and a plurality of horizontal grooves **36a** and **36b** creating raised surfaces between the grooves. The grooves **34a-34e** and **36a** and **36b** are preferably arranged in a manner that gives an impression that the building block **20** is made of a plurality of smaller blocks (i.e., small than the blocks **20**), for example bricks individually attached to each other, and that a structure constructed from the block **20** provides an impression of a brick facade, and the grooves **34a-34e** and **36a** and **36b** are preferably straight grooves.

[0026] The block **20** may be made from a pre-designed mold that creates the grooves **34a-34e** and **36a-36b** on at least the front face **22a**, and additionally may create the grooves on the rear face **24** and/or the left face **26a** and/or the right face **28a** of the building block **20**. Concrete may be poured into the mold, dried, and the resulting block **20** removed from the mold. Colored concrete material known in the art may be poured into the mold to produce a colored brick imitation. For instance, a rusty red colored concrete material may be used to form rusty red building block.

[0027] Alternatively, the building block **20** may be made from existing concrete blocks having plain faces. A cutting or grinding tool suitable for use with concrete may be used to cut or grind the grooves on the faces **22a**, **24a**, **26a**, and/or **28a**. The faces **22a**, **24a**, **26a**, and/or **28a** may be painted (before or after creating the grooves) with a desired color, and the grooves may be painted with a color different from the color used on the faces to provide a visual effect. Preferably, the block **20** may be molded, or cut/ground from a plain block, creating raised surface having approximately the dimensions of bricks on the front face **22a** of each of the blocks **20**.

[0028] The block **20** is preferably made in approximately one or more of several common sizes, for example, 14 inches by 8 inches by 8 inches, 16 inches by 8 inches by 8 inches, 14 inches by 6 inches by 8 inches, 16 inches by 6 inches by 8 inches, 8 inches by 8 inches by 8 inches, 8 inches by 6 inches by 8 inches, 12 inches by 12 inches by 2 inches, and 12 inches by 6 inches by 2 inches. The raised surfaces (i.e., the face portions separated by the grooves in **FIGS. 1A, 1B**, and **2**) are preferably approximately the size of a common brick, for example, approximately $2\frac{1}{4}$ inches by approximately eight inches.

[0029] The spatial orientations of the grooves on the faces **22a**, **24a**, **26a**, and/or **28a** and number of grooves may be varied and still fall within the scope of the present invention. For instance, in a second embodiment of the block **20a** is

shown in **FIG. 2**, the number and the orientations of the vertical grooves have been modified from the number and orientations of the vertical grooves **34a-34e** of the embodiment shown in **FIGS. 1A and 1B**. Specifically, the number of vertical grooves has been reduced by one and they are arranged so that one groove **35a** is substantially on the center of the first row **37**, two grooves **35b** and **35c** are on the second row **39**, and one groove **35d** is substantially in the center of the third row **41**.

[0030] With reference to **FIG. 3**, a third embodiment of the block **20b** is shown. The front wall of building block **20b** preferably includes two vertically oriented grooves **42a** and **42b**. Each groove **42a** or **42b** preferably spans from the top of front wall **46** to the bottom of the front wall **48**. Grooves **42a** and **42b** are preferably substantially equally spaced apart from each other to define three columns **47**, **48**, and **49**.

[0031] With reference to **FIG. 4**, a fourth embodiment of block **20c** is shown wherein the building block **20b** of **FIG. 3** is modified to include additional horizontal grooves **72** and **74**, which are preferably positioned substantially in the middle of column **47** and **49**, respectively. With reference now to **FIG. 5**, a fifth embodiment of building block **20d** is shown. The front face **22a** of building block **20c** includes a first row **52**, a second row **54**, and third row **56**. The first row **52** preferably has a vertical groove **58** approximately centered on the row **52**. The second row **54** preferably includes three rectangular protrusions **60**, **62**, and **64** having approximately the same width. The third row **56** has a vertical groove **60** approximately centered on the row **56**.

[0032] Referring to **FIG. 6**, a sixth embodiment of building block **20e** is shown wherein two equally spaced horizontal grooves **82** and **84** span across the front wall of the building block. Grooves **82** and **84** preferably define three rows **86**, **88**, and **90** on the front face **22a** of the building block **20e**. With reference to **FIG. 7**, a seventh embodiment of building block **20f** is shown wherein two equally spaced vertical grooves **102** and **104** are added to the building block embodiment **80** shown in **FIG. 6**. Vertical grooves **102** and **104** define columns **106**, **108**, and **110** on the front face **22a** of building block **20f**. The front face **22a** of building block **20f** shows a total of nine brick-like structures **112a-l**.

[0033] Referring to **FIG. 8**, an eighth embodiment of building block **20g** is shown wherein a design **114a**, **114b**, and **114c** replaces the brick like structures **112d**, **112e**, and **112f** in **FIG. 7**. The block **20g** thus provides the impression of a decorative row between rows (or courses) of bricks. While diamond shaped designs are shown in **FIG. 8**, a block with top and bottom rows creating the impression of bricks or of smaller blocks, and a center row having one or more designs, is intended to come within the scope of the present invention.

[0034] The front face of a block **20h** similar to the block **20** (see **FIG. 1A, 1B**) is shown in **FIG. 9**. The block **20h** includes half width groove **34f** and **34g** which cooperate in adjacent blocks to give the appearance of a single full width groove. The half groove **34f** and **34g** reside at ends of rows corresponding to ends of full size brick likenesses.

[0035] While **FIGS. 1-9** show blocks with grooves in the front face **22a**, a block with grooves in the rear face **24a** and either or both end faces **26a** and **28a** are intended to come within the scope of the present invention. Further, a block

with grooves in any combination of faces **22a**, **24a**, **26a**, and/or **28a** are intended to come within the scope of the present invention.

[0036] A clip **120** is shown in a perspective view in **FIG. 10A** and in an end view in **FIG. 10B**. The clip **120** is used to hold adjacent blocks **20** closely together during construction to better provide the appearance of a brick facade.

[0037] A portion of a structure **122** constructed from alternating courses of the blocks **20h** (see **FIG. 9**) and alternate blocks (e.g., blocks with the raised surfaces vertically shifted) to produce an impression of common alternating rows (or courses) of bricks is shown in **FIG. 11**. The clip **20** holds side-by-side blocks closely together to provide a preferred impression. The half width grooves **34f** and **34g** (see **FIG. 9**) cooperate to provide the appearance of a full width groove. Consecutive courses of the blocks **20h** are offset by one half block to provide greater strength. The alternate blocks are preferably similar to the block **20a** (see **FIG. 2**). In such instance, the alternate blocks preferably include the half width grooves at ends of rows corresponding to ends of raised surfaces having full brick size.

[0038] A block according to the present invention including a mortar groove **124** is shown in **FIG. 12**. The mortar groove **124** allows the blocks to be laid closely together as shown in **FIG. 11** for a better impression. The mortar groove **124** may be used with any of the blocks shown in **FIGS. 1A through 9**, and may be on one or both ends of a block.

[0039] In addition to the application of the present invention to construction, the present invention may also be practiced in the form of a Child's building block. The child's block is preferably made from Polyvinyl Chloride (PVC) or the like, but is otherwise similar to the construction block described above.

[0040] It can be appreciated that various embodiments of the building blocks of the present invention provides the ability of creating a brick wall or impression thereof without engaging in the conventional and labor-intensive brick laying process. The building blocks of the present invention allows builders to build a wall that looks like it is made from a plurality of bricks without having to purchase individual bricks and without having to manually attach bricks one by one. Therefore, building blocks of the present invention alleviate builders from costs associated with materials and labor involved in building conventional brick walls. Various embodiments of the building blocks further provide building materials to create decorative walls.

[0041] While the invention herein disclosed has been described by means of specific embodiments and applications thereof, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope of the invention set forth in the claims.

I claim:

1. A method for constructing a wall, the method comprising:

providing a plurality of blocks, each of the plurality of concrete blocks comprising a front wall having a front face, a rear wall having a rear face, a left side wall having a left face, and a right side wall having a right face, the blocks including at least one groove on the front face of each of the blocks; and

laying the blocks to form a structure providing an impression of a facade made from a multiplicity of smaller blocks.

2. The method of claim 1, wherein providing the blocks comprises molding the blocks in molds creating at least one groove on the front face of each of the blocks.

3. The method of claim 2, wherein providing the blocks comprises molding the blocks in molds creating raised surface having approximately the dimensions of bricks on the front face of each of the blocks.

4. The method of claim 2, wherein providing the blocks comprises molding the blocks using colored concrete.

5. The method of claim 1, wherein providing the blocks comprises:

providing plain blocks; and

cutting the plain blocks to create at least one groove on the front face of each of the blocks.

6. The method of claim 5, wherein cutting the plain blocks comprises cutting the blocks to create raised surfaces having approximately the dimensions of bricks on the front face of each of the blocks.

7. The method of claim 1, wherein providing the blocks comprises:

providing plain blocks; and

grinding the plain blocks to create at least one groove on the front face of each of the blocks.

8. The method of claim 7, wherein grinding the plain blocks comprises grinding the blocks to create raised surface having approximately the dimensions of bricks on the front face of each of the blocks.

9. The method of claim 1, wherein providing a plurality of blocks comprises providing the blocks having raised surfaces having approximately the dimensions of bricks on the front face of each of the blocks.

10. The method of claim 9, wherein providing a plurality of blocks further comprises providing the blocks having raised surfaces having approximately the dimensions of bricks on the rear face of each of the blocks.

11. The block of claim 9, wherein providing a plurality of blocks further comprises providing the blocks having half width grooves at ends of rows corresponding to ends of the raised surfaces having the shapes of full bricks

12. The method of claim 1, wherein providing a plurality of blocks comprises providing hollow concrete blocks.

13. A block comprising:

a front wall having a front face;

a rear wall having a rear face;

a left sidewall having a left face; and

a right sidewall having a right face,

wherein at least one of the faces includes at least one groove, the at least one groove configured to provide an impression that a structure constructed from a multiplicity of the blocks is constructed from a multiplicity of smaller blocks.

14. The block of claim 13, wherein the at least one groove creates at least one raised surface having approximately the dimensions of bricks on the front face of each of the blocks.

15. The block of claim 14, wherein the blocks have half width grooves at ends of rows corresponding to ends of the raised surfaces having the shapes of full bricks.

16. The block of claim 13, wherein the block is a hollow block.

17. A block structure comprising:

a multiplicity of connected blocks comprising:

a front wall having a front face having raised surfaces having shapes of full bricks and of half bricks;

a rear wall having a rear face;

a left sidewall having a left face; and

a right sidewall having a right face,

wherein the raised surfaces of the front faces provide an impression that the block structure is constructed from a multiplicity of bricks.

18. The block of claim 17, wherein the rear face has the raised surfaces having the shapes of full bricks and of half bricks to provide an impression that the block structure is constructed from a multiplicity of bricks.

19. The block of claim 18, wherein the blocks have half width grooves at ends of rows corresponding to ends of the raised surfaces having the shapes of full bricks.

20. The block of claim 19, wherein side-by-side ones of the blocks are connected by clips to hold the side-by-side ones of the blocks close together to provide a cooperation of adjacent half width grooves providing an impression of a single full width groove.

* * * * *