Dec. 13, 1960 P. J. BELLIVEAU 2,963,828

BUILDING BLOCKS AND MEANS FOR ASSEMBLING SAME

Filed June 13, 1957

2 Sheets-Sheet 1

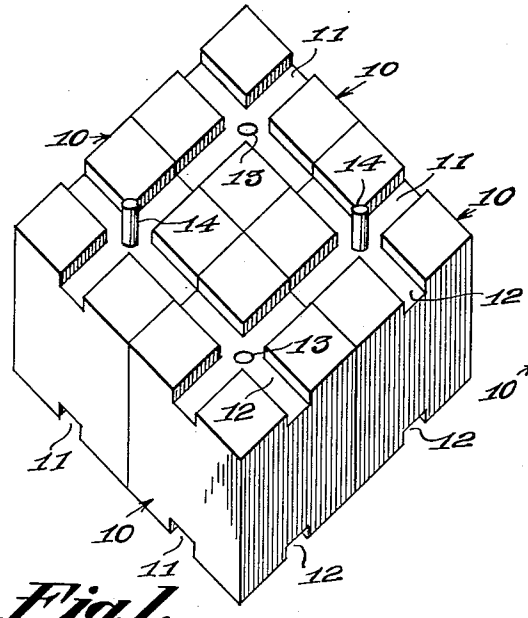


Fig. 1.

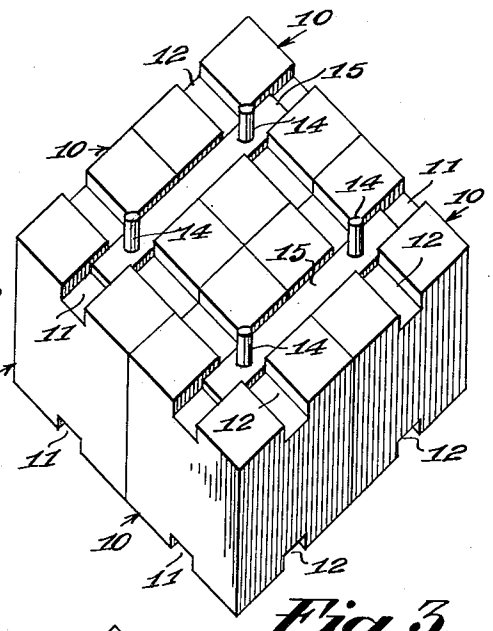


Fig. 3.

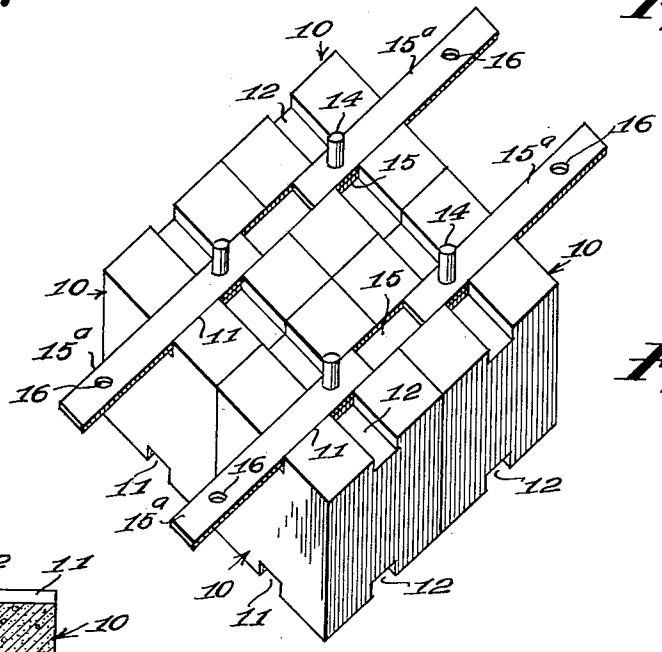


Fig. 4.

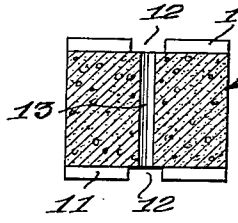


Fig. 2.

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BUILDING BLOCKS AND MEANS FOR ASSEMBLING SAME

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2 Sheets-Sheet 2

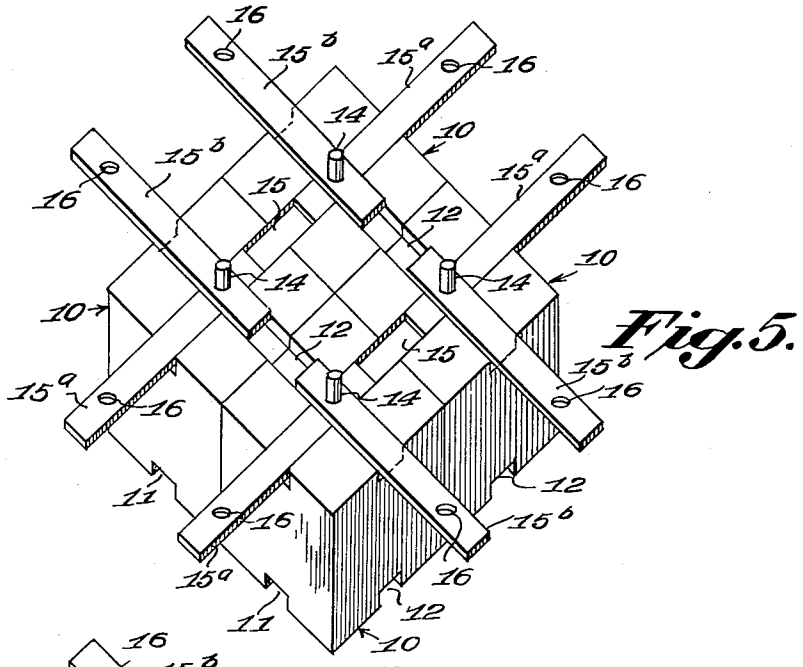


Fig. 5.

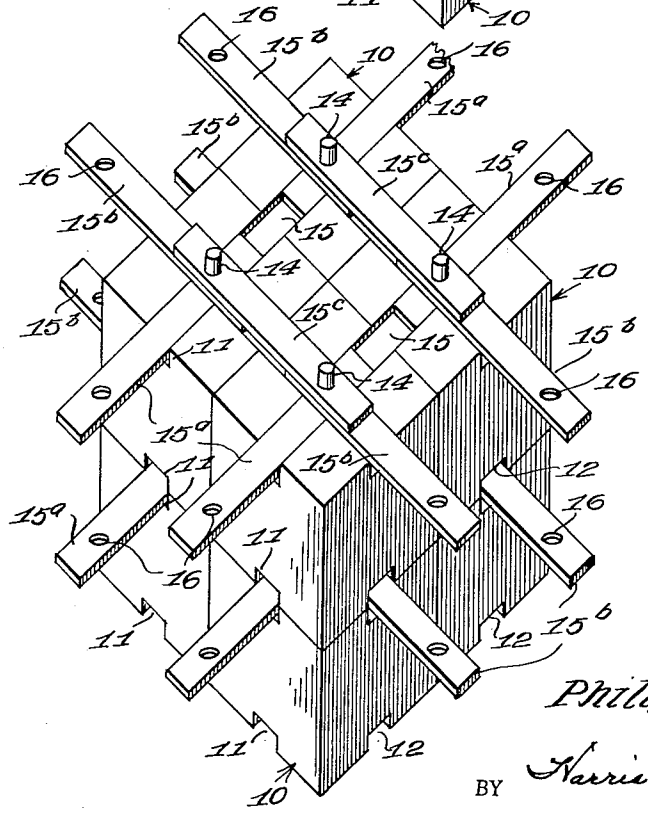


Fig. 6.

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BUILDING BLOCKS AND MEANS FOR ASSEMBLING SAME

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2 Claims. (Cl. 50—425)

This invention relates to building blocks and means for assembling same.

The invention is more particularly concerned with building blocks of rectangular form which are provided with a pair of right angularly disposed intersecting grooves in opposed parallel faces thereof and wherein connecting means are provided for the blocks which are disposed in said grooves.

The present invention is for the improved wall construction and method of construction which can be easily manufactured and laid with or without cement one block on another without staggering and when so laid can be interlocked as between each block by use of connecting metal straps.

A primary object of the invention is to provide rectangular building blocks, each of which is provided with intersecting grooves in the opposed horizontal faces thereof and an aperture extending through the block from the bottom walls of the grooves at the intersections thereof and wherein means are provided for extension through said apertures and for disposition within said grooves for securing horizontally disposed abutting blocks in position.

A further object of the invention is the provision of building block securing means which are of highly simple construction and which are capable of quick and easy assembly with the blocks for expediting the laying thereof.

Other objects and advantages of the invention will become apparent in the course of the following detailed description, taken in connection with the accompanying drawings, wherein—

Fig. 1 is an isometric view of four juxtaposed building blocks constructed in accordance with the present invention and wherein a pair of pins involved in the block connecting means are shown in position in the respective blocks.

Fig. 2 is a central vertical sectional view of one of the blocks.

Fig. 3 is a view similar to Fig. 1 showing a further advanced step in the connection of the blocks.

Fig. 4 is a view similar to Fig. 1 and showing a still further advanced step in the connection of the blocks.

Fig. 5 is a view similar to Fig. 1 and showing a still further advanced step in the connection of the blocks.

Fig. 6 is an isometric view showing four juxtaposed rectangular building blocks completely connected against longitudinal separation and further showing four similar blocks connected together against longitudinal separation and on which the first four connected blocks are supported.

Referring now in detail to the drawings, and first to Figs. 1 and 2 thereof, each block **10** in each of its vertically spaced horizontal faces is provided with a pair of right angularly disposed intersecting grooves **11** and **12** and each block **10** is further provided with a vertical aperture **13** whose opposite ends open through the bottom walls of the grooves **11** and **12** centrally of the intersections thereof.

The connecting means comprises a plurality of steel pins **14** and a plurality of metallic plates or straps **15**, all of the pins are of like dimensions and all of the straps are of like dimensions and the latter have letter suffix designations in the description of the successive positioning thereof.

As indicated in Fig. 1, two pins **14** are in position but all four will, of course, be disposed in the respective apertures **13** in the initial step of block securement.

The second step of assembling the four blocks **10** is indicated in Fig. 3, wherein a strap **15** is positioned in each of the grooves **11** in the upper faces of the blocks.

At this point, it is to be observed that the pins **14** are initially loose in the apertures **13** and same are of a length that they finally project above the last applied straps whereby pins dropped into the apertures in a succeeding layer of blocks will be pushed upwardly by the projecting ends of the pins in the preceding layer of blocks and each of the straps **15** is provided with a pin receiving aperture **16** adjacent each end thereof. Furthermore, the thickness of the straps is equal to one-half the depth of the grooves. Upon positioning the straps **15** in position in Fig. 3, same are welded to the pins **14**.

The third step of assembly is indicated in Fig. 4, wherein two additional straps 15^a are laid in grooves **11** with the apertures **16** in adjacent ends thereof receiving the pins **14** and the straps 15^a are welded to the pins.

It is to be noted that the upper faces of blocks **10** and the upper faces of straps 15^a are flush.

The fourth step of assembly is indicated in Fig. 5, wherein a pair of additional straps 15^b are disposed in overlying relation to each of the grooves **12** and in intersecting relation to the straps 15^a and with the adjacent end apertures **16** receiving the pins **14** and to which the straps 15^b are welded.

The fifth and final step of assembly of the blocks is indicated in Fig. 6, wherein an additional strap 15^c is positioned over adjacent ends of each alined pair of straps 15^b and which are also welded to the pins **14**. It is to be noted that the pins **14** project slightly above the straps 15^c for urging the pins upwardly in the apertures **13** in a succeeding layer of blocks.

As is indicated in Fig. 6, the straps 15^b and 15^c rest in the bottom grooves **12** of a succeeding layer of blocks.

While the connecting means are shown for an assembly of four blocks only, it is apparent that the projecting apertured ends of the straps are readily connectible to pins **14** disposed in other groups of blocks.

Having set forth the invention in accordance with a preferred structural embodiment thereof, what is claimed and desired to be secured by U.S. Letters Patent is—

1. A building block assembly comprising four rectangular blocks in side wall engagement with each other, a pair of right angularly disposed grooves in each of the upper and lower faces of each of said blocks, said grooves intersecting in the vertical center of blocks with their ends opening through the vertical side walls of the block intermediate the vertical corners thereof and said grooves having right angularly disposed bottom and side walls, a vertical aperture in each of said blocks opening through the bottom walls of the grooves at the intersections thereof, a pin of a length slightly greater than the height of the blocks disposed within the aperture in each block and projecting upwardly to a point above the upper face thereof, a first strap disposed within aligned grooves in a first pair of said blocks and a second strap being disposed within aligned grooves within a second pair of said blocks said aligned grooves in said first and second pair of blocks being parallel said first and second straps each being in the upper faces of said blocks, said straps each

having an aperture therein adjacent each end thereof through which the upper ends of said pins extend said pins being secured to said straps, a further two pair of apertured straps disposed in superposed relation to the first and second straps, said further two pair of straps being flush with the upper faces of said blocks and having opposite apertured end portions protruding beyond a first opposite side walls of the blocks, the apertures in adjacent ends of said superposed further two pair of straps receiving the upper ends of said pins and being secured thereto, a further apertured strap disposed upon and in intersecting relation to each strap of the said further two pairs of protruding straps with each of said intersecting straps having lower faces in the plane of the upper faces of said block, said intersecting straps are aligned in pairs having opposite apertured end portions of each pair thereof protruding beyond a second opposite side walls of said blocks which are disposed in right angular relation to said first side walls, adjacent apertured end portions of said aligned pairs of intersecting straps resting upon and intersecting said further two pairs of protruding straps said pins extending through the aperture in said adjacent end portions of said aligned pairs of intersecting straps, two additional straps disposed in superposed relation to each aligned pair of said intersecting straps with a corresponding pair of said pins extending through said additional straps' apertures therein, and all said apertured straps being of rectangular form and cross section and of a width corresponding to that of the grooves and of a depth equal to one half of the depths of said grooves.

2. A building block assembly comprising four rectangular blocks in side wall engagement with each other, a pair of right angularly disposed grooves in each of the upper and lower faces of each of said blocks, said grooves intersecting in the vertical center of the block with their ends opening through the vertical side walls of the block intermediate the vertical corners thereof and said grooves having right angularly disposed bottom and side wall, a vertical aperture in each of said blocks opening through the bottom walls of the grooves at the intersections thereof, a pin of a length slightly greater than the height of the blocks disposed within the aperture in each block and projecting upwardly to a point above the upper face thereof, a first strap disposed within aligned grooves in

a first pair of said blocks and a second strap being disposed within aligned grooves within a second pair of said blocks said aligned grooves in said first and second pair of blocks being parallel said first and second straps each being in the upper faces of said blocks, said straps each having an aperture therein adjacent each end thereof through which the upper ends of said pins extend said pins being secured to said straps, a further two pairs of apertured straps disposed in superposed relation to the first and second straps said further two pair of straps being flush with upper faces of said blocks and having opposite apertured end portions protruding beyond a first opposite side walls of the blocks, the apertures in adjacent ends of said superposed further two pairs of straps receiving the upper ends of said pins and being secured thereto, a further apertured strap disposed upon and in intersecting relation to each strap of the said further two pairs of protruding straps with each of said intersecting straps having lower faces in the plane of the upper faces of said block, said intersecting straps are aligned in pairs having opposite apertured end portions of each pair thereof protruding beyond a second opposite side walls of said blocks which are disposed in right angular relation to said first side walls, adjacent apertured end portions of said aligned pairs of intersecting straps resting upon and intersecting said further two pairs of protruding said pins extending through the aperture in said adjacent end portions of said aligned pairs of intersecting straps, and two additional straps disposed in superposed relation to each aligned pair of said intersecting straps with a corresponding pair of said pins extending through said additional straps' apertures therein.

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