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R. SHERMAN

3,564,787

MODULAR DESIGN BLOCK

Original Filed May 21, 1968

3 Sheets-Sheet 1

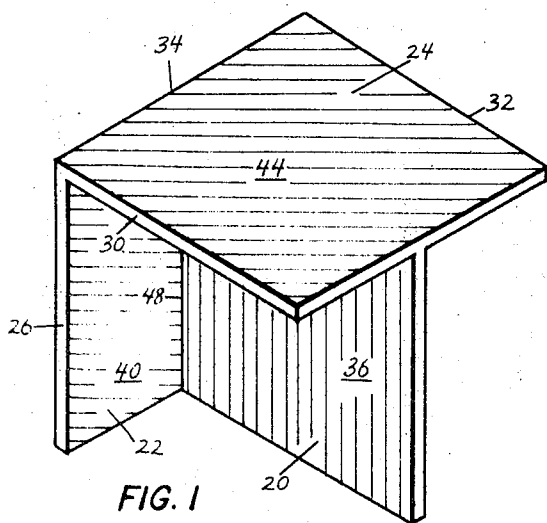


FIG. 1

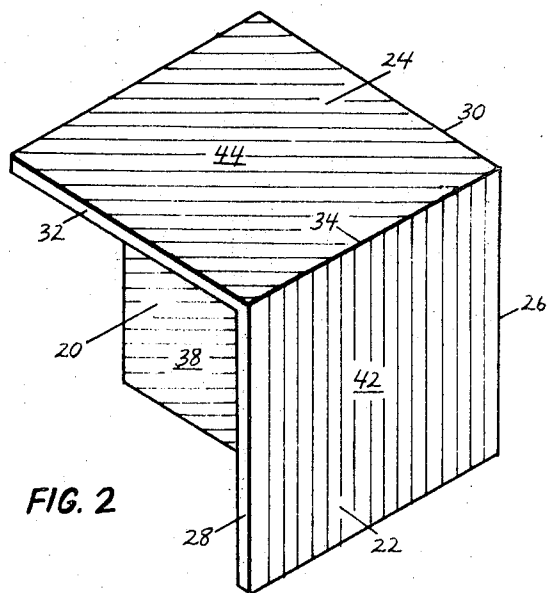


FIG. 2

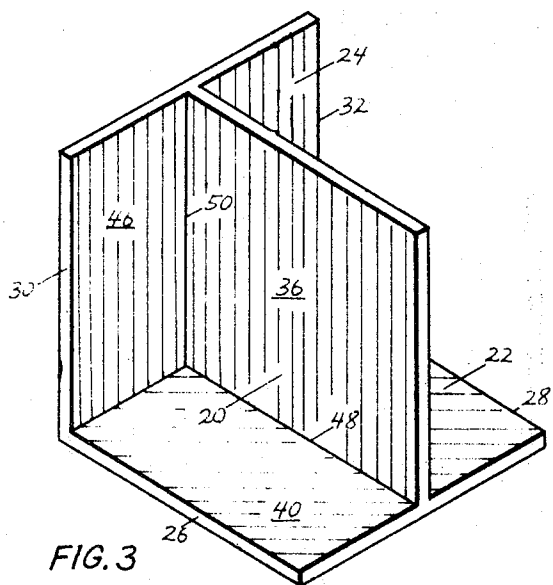


FIG. 3

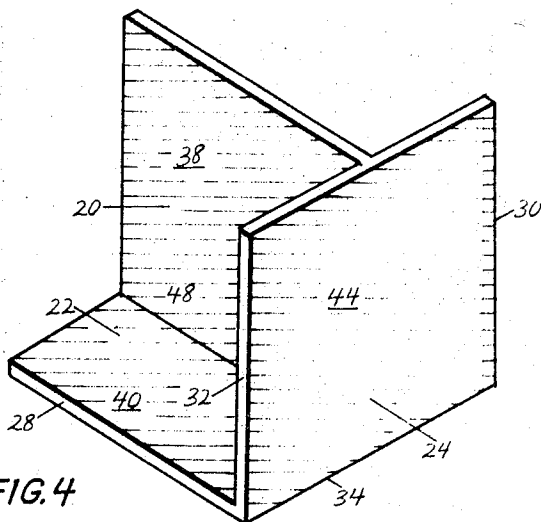


FIG. 4

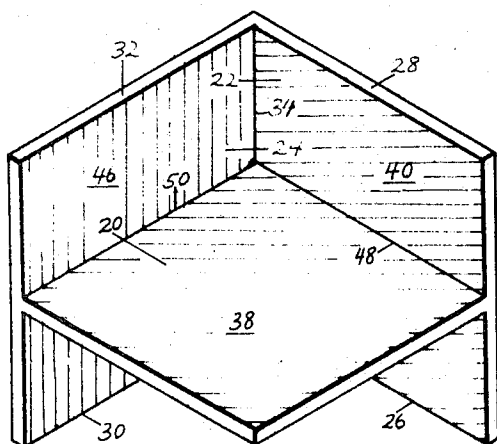


FIG. 5

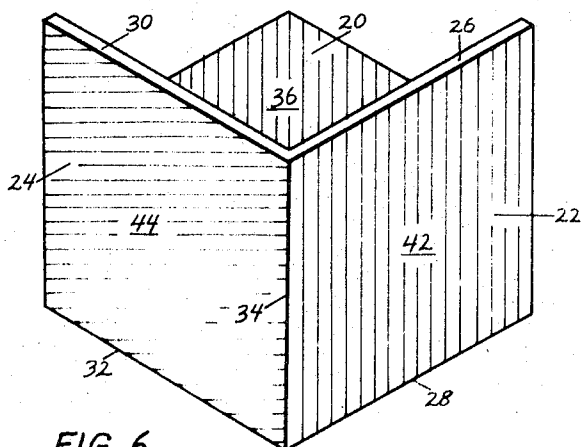


FIG. 6

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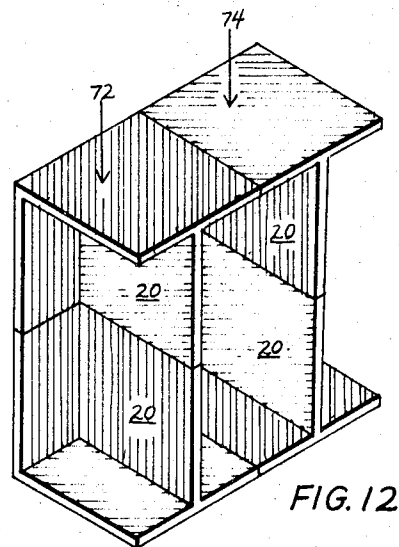
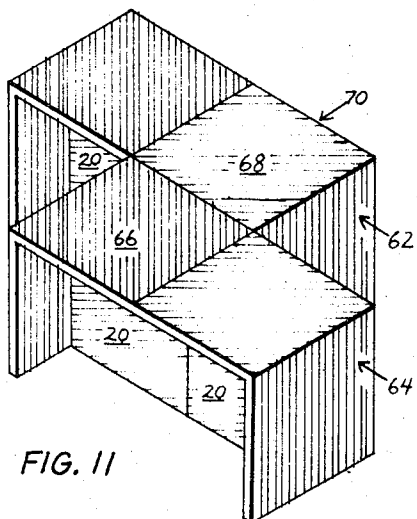
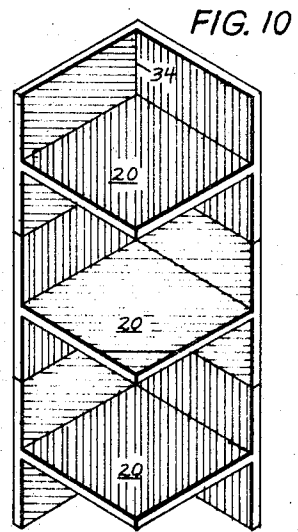
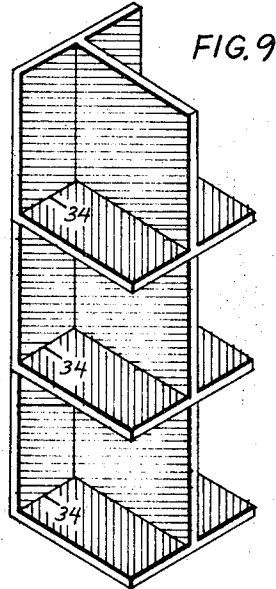
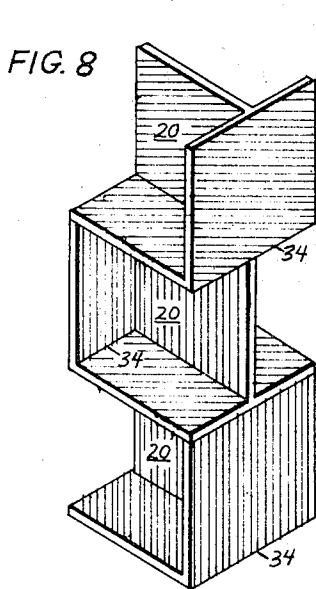
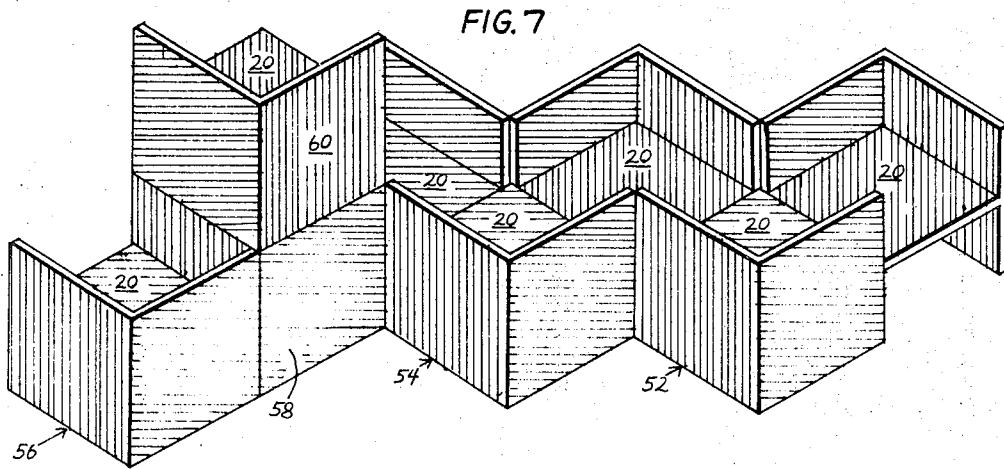
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3 Sheets-Sheet 2



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MODULAR DESIGN BLOCK

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3 Sheets-Sheet 3

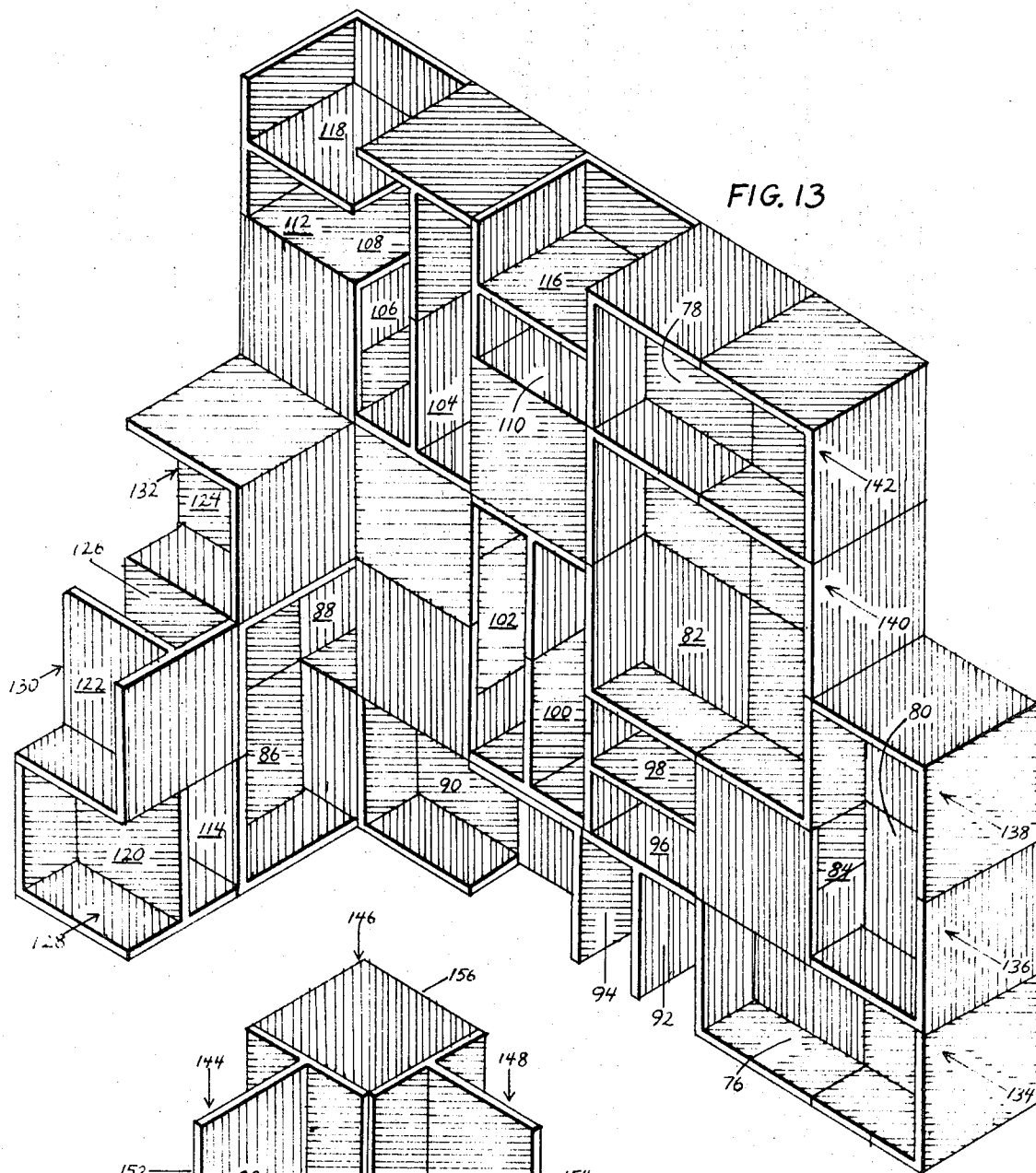
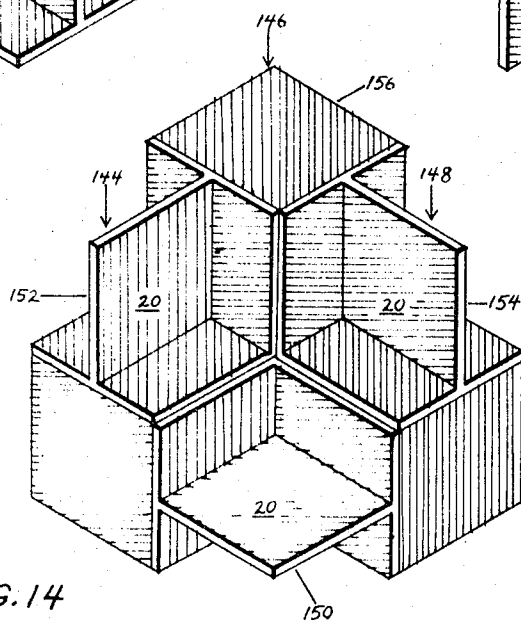


FIG. 14



1

3,564,787

MODULAR DESIGN BLOCK
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Continuation of application Ser. No. 730,772, May 21,
1968. This application Dec. 3, 1969, Ser. No. 876,169
Int. Cl. H63h 33/04; E04b 1/348
U.S. Cl. 52-79

1 Claim

ABSTRACT OF THE DISCLOSURE

Each block of a set of blocks is formed of three square members, each member lying in a plane perpendicular to the planes of the other two members. A first member is offset from the edges of the second and third members so that the first member forms a T with the second member and a T with the third member, while the second and third members have an edge in common and form an L with each other. Each member is colored in accordance with a first scheme on one side and in accordance with a second scheme on the other side. The blocks can be nested together to form a multiplicity of different patterns.

This application is a continuation of my copending application Ser. No. 730,772 filed on May 21, 1968.

This invention relates to modular design blocks and, more particularly, to a set of novel blocks that can be nested together to form a multiplicity of different patterns. Architects and designers of interiors frequently desire to create artistic visual patterns in a wide variety of surfaces, including floors, ceilings, interior and exterior walls, and partitions. It is frequently desired that the patterns include the use of color.

Various desired patterns can be created in a number of ways, including the use of paint and colored tile. Conventional means for creating the desired patterns are limited, however, in that they are typically two-dimensional and require a supporting structure and further in that a plurality of different colors of paints, designs of tiles, etc., is necessary to produce the desired pattern.

Interior designers frequently desire to make articles of furniture such as shelves from modular design units, but conventional units typically place severe limitations of color and form on the completed article of furniture.

Educators concerned with the education not only of architects and interior designers but also of the very young are particularly interested in the educational value of modular design units. Such units have great value in teaching principles of construction and design, in facilitating visualization and evaluation of proposed designs, and in fostering an appreciation of color and form. Conventional blocks for this purpose typically snap together rather than nest together and present only limited possibilities for experimentation.

SUMMARY OF THE INVENTION

An object of the present invention is to remedy the problems outlined above. In particular, an object of the invention is to provide modular design blocks a plurality of which can be used to produce striking surface effects in color, the blocks being three-dimensional so that they can stand as a separate partition and need not be adhered to a parallel supporting surface. Another object of the invention is to provide a set of modular design blocks

2

that can be used to make articles of furniture. Another object of the invention is to provide a set of modular design blocks that are highly desirable as playthings for children and as instructional aids even to advanced students of architecture and interior design.

The foregoing and other objects of the invention are attained, in a representative embodiment thereof, by the provision of a set of blocks each comprising first, second, and third rectangular members. Each member lies in a plane perpendicular to the planes of the other two members. The first member is offset from the edges of the second and third members, and the second and third members have an edge in common so that the first member forms a T with the second member and a T with the third member and the second and third members form an L with each other.

BRIEF DESCRIPTION OF THE DRAWING

An understanding of additional aspects of the invention may be gained from a consideration of the following detailed description of a representative embodiment thereof and of several ways in which it can be employed, taken in conjunction with the appended figures of the drawing, in which:

FIGS. 1-6 are perspective views of a representative block in accordance with the invention; and

FIGS. 7-14 are perspective views showing, respectively, eight different representative ways in which the block of FIGS. 1-6 can be nested together.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIGS. 1-6 show a block in accordance with the invention from six different perspectives. Each of the figures shows a first member 20, a second member 22, and a third member 24. Each of the members 20, 22, and 24 is rectangular and preferably square.

The member 20 lies in a plane perpendicular to the plane in which the member 22 lies and also perpendicular to the plane in which the member 24 lies. Similarly, the planes in which the members 22 and 24 lie are perpendicular to each other. Thus, each of the members 20, 22, and 24 lies in a plane perpendicular to the planes of the other two members.

The first member 20 is offset from the edges 26 and 28 of the second member 22 and is also offset from the edges 30 and 32 of the third member 24. The second and third members 22 and 24 have, however, an edge 34 in common.

The first member 20 therefore forms a T with the second member 22 and a T with the third member 24, while the second member 22 and third member 24 form an L with each other.

Preferably, the members 20, 22, and 24 are colored in accordance with a first scheme on one side and in accordance with a second scheme on the other side. Thus, the side 36 of the first member 20 may be red and the side 38 of the first member 20 blue. Similarly, the side 40 of the second member 22 may be blue and the side 42 red. Finally, the side 44 of the third member 24 may be blue and the side 46 red.

The first member 20 has an edge 48 substantially bisecting the second member 22 and an edge 50 substantially bisecting the third member 24. While the first member 20 is slightly smaller than the second and third members 22 and 24 because the members have a certain

3

thickness, all three members are of approximately the same size.

FIGS. 7-14 show, respectively, but eight of a multiplicity of different ways in which the blocks according to the invention can be nested together to form a multiplicity of different patterns.

In the arrangement of FIG. 7, eight blocks are nested together with the first member 20 in a horizontal plane. Seven of the blocks are at the same level in rows 52 and 54 of two blocks each and a row 56 of three blocks. The middle block 58 of the latter row is surmounted by a block 60, which is at a level above the level of the remaining seven blocks.

Three blocks are employed to produce the design illustrated in FIG. 8. Each of the three blocks is oriented so that the first member 20 is in a vertical plane and the edge 34 common to the second and third members 22 and 24 is at the lowest plane of each block and alternately on the right and left side of the structure.

FIG. 9 shows a pattern similar to the pattern of FIG. 8 except that the edges 34 are all on the same side of the structure.

FIG. 10 shows a design similar to the designs of FIGS. 8 and 9 in that three blocks are arranged one on top of another. In the arrangement of FIG. 10, however, each block is oriented so that the first member 20 is in a horizontal plane. The edges 34 are all on the same side of the structure.

In the arrangement of FIG. 11, four blocks are employed, two being in a row 62 and the other two being in a row 64. All of the blocks are oriented so that the first member 20 is in a vertical plane. Blocks 66 and 68 are in a row 70 perpendicular to the rows 62 and 64, and the blocks 66 and 68 abut each other. Consideration of FIGS. 1-6 in conjunction with FIG. 11 reveals that an open passage is formed through the composite structure extending under each of the blocks. If the blocks are of sufficient size, they thus lend themselves to the construction of playground apparatus inviting exploration by children.

In the arrangement of FIG. 12, four blocks are employed, each block being oriented so that the first member 20 is in a vertical plane. The blocks are disposed in two adjacent columns 72 and 74, the first members 20 in each column abutting each other and the members 20 in one column being a plane parallel to and spaced apart from the plane of the members 20 of the other column.

In the arrangement of FIG. 13, thirty-three blocks are employed, of which thirty-two are visible in the figure. From the perspective of the figure, a number of recesses are formed. To the right of the figure at the bottom and top thereof, respectively, horizontal recesses 76 and 78 are respectively adjacent to a vertical recess 80 and a square recess 82.

The horizontal and vertical recesses have a horizontal and vertical length, respectively, approximately equal to the length of two blocks and a vertical and horizontal width, respectively, approximately equal to the length of one block. The square recess 82 is approximately equal in both its vertical and horizontal dimensions to the length of two blocks.

The vertical recess 80 communicates with a recess 84 which extends through the structure to the opposite side.

At the left of the structure is another vertical recess 86 of the same size as the vertical recess 80. The vertical recess 86 communicates with a vertical recess 88 having a height and depth substantially equal to the width of a block and a width substantially equal to half the width of a block. The recess 88 does not open to the other side of the structure.

Just to the left of the middle of the structure is a horizontal recess 90 of the same size as the horizontal recess 76. Between the horizontal recesses 76 and 90 are two short vertical recesses 92 and 94 atop which are

4

two short horizontal recesses 96 and 98. The long dimensions visible in the figure of the recesses 92, 94, 96 and 98, and the depths of the recesses, are substantially equal to the width of a block, while the short dimensions of the recesses visible in the figure are substantially equal to half the width of a block.

There are also formed long narrow vertical recesses 100, 102, 104 and 106, each having a width visible in the figure equal to approximately half the width of a block and a height equal to the width of two blocks. The recess 102 communicates with a recess opening to the opposite side of the structure, while the recess 106 below the horizontal member 108 likewise communicates with a recess opening to the opposite side of the structure. The recesses 100 and 104, in contrast, do not communicate with the opposite side of the structure.

In addition to the recesses described above, there are short horizontal recesses 110 and 112 and a short vertical recess 114, plus openings 116 and 118 in the top of the structure and 120, 122 and 124 in the side of the structure. Also, an opening 126 facing the opposite side of the structure is visible.

The blocks are arranged in three superimposed rows 128, 130, and 132 at right angles to three superimposed rows 134, 136, and 138. The rows 128 and 130 are three blocks deep, and the row 132 is two blocks deep. Each of the rows 134, 136, and 138 is six blocks deep. The rear block in each of the rows 128, 130, and 132 is the same as the left-hand block of the rows 134, 136, and 138, respectively.

Superimposed on the blocks common to one of the rows 128, 130, and 132 on the one hand and one of the rows 134, 136, and 138 on the other are left-hand blocks of uppermost rows 140 and 142 containing five blocks each. The rows 140 and 142 are superimposed on the rows 134, 136, and 138.

FIG. 14 shows another arrangement of blocks in accordance with the invention. In this arrangement, there are three columns 144, 146, and 148 consisting of two blocks each and a seventh block 150. The columns describe an L in plane view, and the block 150 is arranged in the hollow of the L and oriented so that its first member 20 is in a horizontal plane. The first members 20 of the blocks 152 and 154 lie in vertical planes that intersect at the center of the block 156.

The arrangements of blocks in accordance with the invention shown in FIGS. 7-14 are merely illustrative. Clearly, an indefinitely large number of patterns can be created by means of blocks constructed in accordance with the invention.

Thus, there is provided in accordance with the invention a novel set of blocks having uses in architectural and interior design and in education. A wide range of additional uses will readily suggest themselves, including the construction of mazes for use in the laboratory.

Many modifications of the representative embodiment of the invention described above will readily occur to those skilled in the art. For example, the surfaces of the members need not be in solid colors; that is, each surface may include a number of colors arranged in a desired pattern. Also, the color schemes selected for the two sides of each of the first, second, and third members of the blocks may be different from the color schemes selected for the two sides of the other members. Moreover, form can function without color, and the blocks can be made of transparent materials. Accordingly, the invention is to be construed as including all of the modifications thereof within the scope of the appended claims.

I claim:

1. A set of three-dimensional modular design blocks, each block of said set comprising first, second, and third square members of approximately the same size, each member of said first, second, and third square members being colored and lying in a plane perpendicular to the

5

planes of the other two members, said first member bisecting said second and third members and said second and third members having an edge in common, so that said first member forms a T with said second member and a T with said third member and said second and third members form an L with each other, said blocks being nestable together without snapping, whereby a multiplicity of different patterns can be formed, and each of said members being formed of a transparent material.

6

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5 JOHN E. MURTAGH, Primary Examiner

U.S. Cl. X.R.

35—16, 69; 46—24; 52—284, 611