

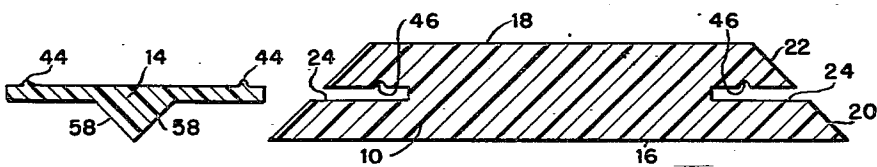
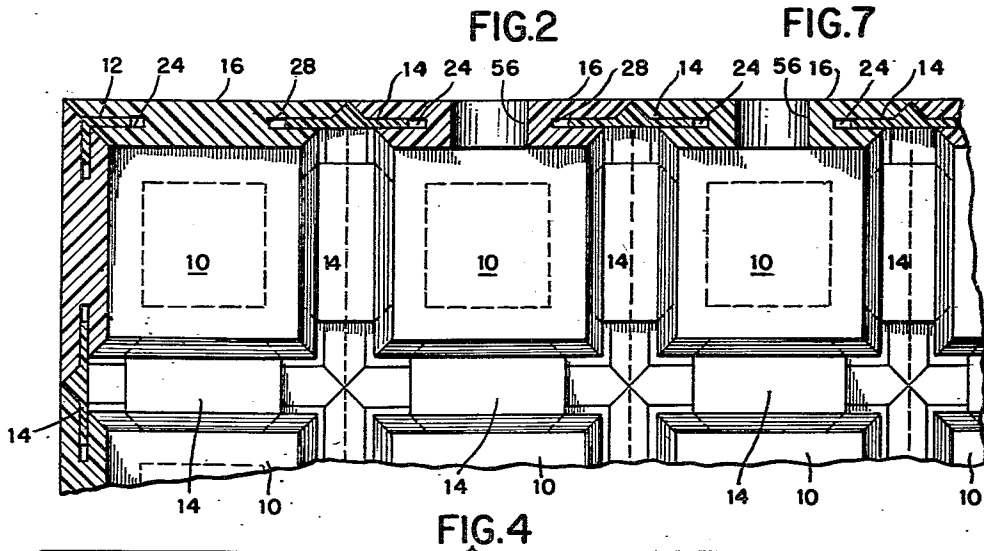
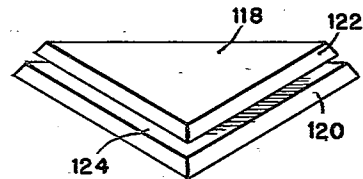
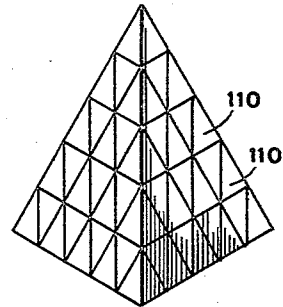
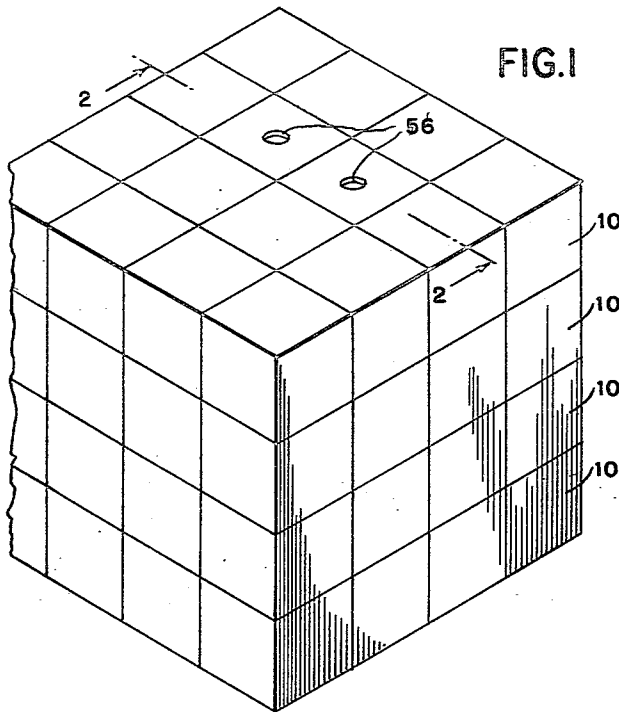
June 4, 1957

M. MILROD ET AL
BLOCK CONSTRUCTION

2,794,293

Filed April 7, 1954

2 Sheets-Sheet 1



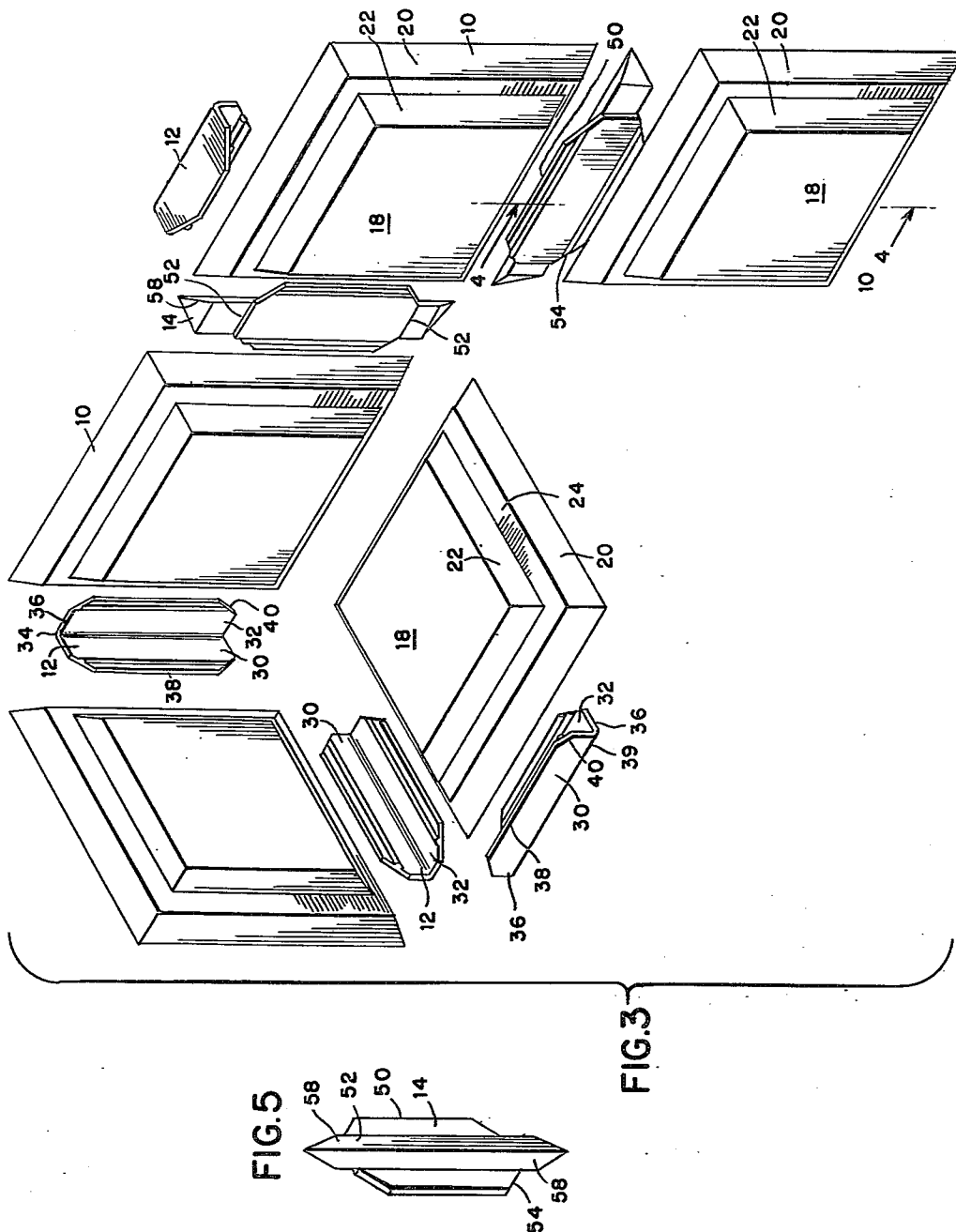
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2,794,293

BLOCK CONSTRUCTION

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2 Claims. (Cl. 46—26)

This invention relates generally to the art of construction-type toys, and more particularly to an improved form of block construction adapted to be assembled to form a large, smooth-surfaced rectangular solid, or three dimensional figure.

It is among the principal objects of the present invention to provide building block construction of the type described which may have relatively simple assembly, thereby adapting the same for use by children of relatively tender years, as well as equally simple disassembly.

Another object of the invention lies in the provision of building block construction, which although easily assembled and disassembled, will maintain itself in assembled form, and which may be disassembled only by positive action on the part of the user.

Another object of the invention lies in the provision of building block construction possessing the above-mentioned advantages, in which the cost of fabrication may be of a reasonably low order, with consequent wide sale, distribution and use.

A further object of the invention lies in the provision of a number of uniform parts which are readily interchangeable, and which permit the addition of numbers of such parts from time to time, thereby permitting the child to have a larger set of blocks incorporated with his previous set, as his imagination and ability to assemble increases with growth.

Another object of the invention lies in the provision of building block construction which may be formed completely of materials which are easily maintained in a sanitary condition without damage or deleterious effect.

A feature of the invention lies in the fact that smooth outer surfaces are presented to the viewer at the rectangular corners of any figure or solid construction.

Another feature of the invention lies in the fact that it has application to a three dimensional figure other than rectangular in configuration.

These objects and features, as well as other incidental ends and advantages, will become more clearly apparent during the course of the following disclosure and be pointed out in the appended claims.

On the drawing, to which reference will be made in the specification, similar reference characters have been employed to designate corresponding parts throughout the several views.

Figure 1 is an isometric view of a rectangular solid embodying the invention.

Figure 2 is a fragmentary enlarged vertical transverse sectional view as seen from the plane 2—2 on Figure 1.

Figure 3 is an exploded view in perspective showing the interrelation of the various elements comprising the embodiment.

Figure 4 is a sectional view as seen from the plane 4—4 on Figure 3.

Figure 5 is a view in perspective showing another of the elements comprising the second embodiment.

Figure 6 is a view in isometric showing a second embodiment of the invention.

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Figure 7 is a view in isometric showing one of the elements comprising the second embodiment.

In accordance with the first embodiment of the invention, the device comprises a plurality of block elements 10, a plurality of first angularly shaped connecting elements 12, and a plurality of second or planar connecting elements 14.

The individual blocks 10 may be formed from any suitable material, as for example, molded synthetic resin, molded rubber, wood, aluminum or other suitable metal, or molded papier-mache. Since the blocks 10 are substantially similar, a detailed description of one of said blocks will serve equally well to describe all, thereby avoiding needless repetition.

An individual block 10 is generally in the form of a truncated pyramid, including a first or outer surface 16 of generally larger area, a second or inner surface 18 of generally smaller area, four outer side surfaces 20, and four inner side surfaces 22, which are continuations of the outer side surfaces 20, and which are separated therefrom by a groove 24 which extends into the side surfaces in a direction parallel to the surfaces 16 and 18. As may be seen on Figure 2, the grooves extend in a plane and are bounded by an inner edge surface 28. The surfaces 20—22 are inclined at substantially a 45° angle with respect to the plane of the surfaces 16—18.

The first or angularly shaped connecting elements 12 are preferably formed from lengths of extruded or molded synthetic resins, although if desired, these may be made or cut from extruded aluminum, wood or other suitable material. The elements 12 are all substantially similar, each including a first angularly disposed portion 30, a second angularly disposed portion 32, the planes of which intersect on a line 34. The elements are bounded by end edges 36, side edges 38 and corner edges 40, which are provided to eliminate sharp corners which might injure the user, as well as to provide clearance between adjacent connecting elements.

The second or planar connecting elements 14 are of generally similar construction, and differ from the first connecting elements 12 in that they are adapted to interconnect adjacent blocks which are disposed in a plane. They include a planar portion bounded by side edges 50, end edges 52 and corner edges 54, and an elongated portion of substantially triangular cross section which is bounded by surfaces 58. The elongated portion is preferably so shaped as to completely fill the space between adjacent blocks disposed in a common plane, so as to thereby provide additional rigidity to the assembled structure.

As may be best seen on Figure 4, all of the connecting elements are preferably provided with a raised projection 44 which corresponds to a groove or trough 46 on the block, thereby forming a resilient detent which aids in maintaining the assembled structures together.

The assembly of the elements 10—14 is best seen on Figure 3. Assuming that the solid shown on Figure 1 is to be constructed, construction is best commenced at a corner, which is assembled by means of the angularly shaped connecting elements 12. The angle portions 30 and 32 are first inserted into the groove 24 of two adjacent blocks 10, which may easily abut each other owing to the 45° disposition of the side surfaces 20. A third block 10 is next interconnected between the two blocks already joined to complete the corner. Side walls are formed by use of the second connecting elements 14 which are inserted in like manner, but which permit the succeeding blocks to lie in a plane with those blocks already assembled. Successive corners are formed in a similar manner, followed by succeeding walls. For inserting the final blocks, two adjacent blocks are provided with finger holes 56, extending perpendicular to the plane

of the box which permit the completed solid to be disassembled at will by inserting fingers of either hand in the holes and pulling outwardly. This exerted stress will move several of the blocks sufficiently far apart that the rest may be disassembled in the reverse order of assembly at any time it is desired to dismantle the completed solid.

Although we have shown the blocks 10 as substantially square with regard to the configuration of the first and second surfaces 16 and 18, it is to be understood that rectangular shapes may also be employed with similar facility.

Turning now to the second embodiment of the invention, to avoid needless repetition, parts corresponding to those of the first embodiment have been designated by similar reference characters with the additional prefix "1."

The second embodiment differs from the first embodiment principally in that the building blocks are triangular in over-all configuration rather than rectangular. The connecting elements are correspondingly altered as to angular configuration as is the relationship of the sides of the blocks to the parallel planar area.

It may thus be seen that we have invented novel and highly useful improvements in block construction, which may be quickly and easily assembled by a young child to form relatively large hollow rectangular solids, the size of which are limited only by the number of blocks on hand, and the ability of the child using the same. The solid may in turn be easily disassembled, wherein the individual blocks may be stored and shipped in a space substantially smaller than that occupied by the solid, which may be assembled, thereby permitting a large number of such blocks to be stored with little or no inconvenience. By molding the blocks, which are essentially planar in configuration, it is possible to easily obtain a uniform size in shape permitting extremely precise construction, heretofore unobtainable in the case of wood blocks.

We wish it to be understood that we do not consider the invention limited to the exact details of structure shown and set forth in his specification, for obvious modifications will occur to those skilled in the art to which the present invention pertains.

We claim:

1. In combination, a pair of substantially equally sized building blocks, each of said blocks comprising a first outer planar surface having a given geometrical shape of given area, a second inner planar surface disposed parallel with respect to said first surface and of similar geometrical shape, said second surface having a second given area substantially less than said first given area; said blocks having side surfaces disposed at an angle with respect to said inner and outer surfaces, the edges of which are coextensive with each other and with the bounding edges of said first and second surfaces, each of said side surfaces having a groove disposed therein, the plane of which lies parallel to the planes of said inner and outer surfaces; a connecting element adapted to interconnect said pair of blocks comprising a first substantially planar member, and a second member having a substantially triangular cross section and a principal axis lying substantially parallel to the plane of said first member; said connecting element being adapted to maintain said blocks in adjacent co-planar relationship with said first mentioned surfaces forming a continuous surface by engaging the juxtaposed portions of said grooves in each of said pair of blocks, whereby said second member may contact the mutually angularly disposed adjacent side surfaces of each block.

2. Structure according to claim 1 in which said grooves in said blocks and said first member of said connecting element are provided with interlocking detent means.

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