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McFarland

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[54] **ELEMENTS HAVING ALTERNATING MUTUALLY PERPENDICULAR FORMATIONS PERMITTING INTERFITTING**

[75] Inventor: **Norman T. McFarland**, Urbana, Ill.

[73] Assignee: **Marvin Glass & Associates**, Chicago, Ill.

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[52] **U.S. Cl.** **46/28**, 46/25

[51] **Int. Cl.** **A63h 33/08**

[58] **Field of Search** 46/29, 28, 21, 19, 46/25, 26

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Primary Examiner—F. Barry Shay

Attorney—Hofgren, Wegner, Allen, Stellman & McCord

[57] **ABSTRACT**

A construction hobby set of a plurality of identical interfitting members, each member being generally elongate and stick-like in nature with alternate transversely arranged portions designed to matingly engage with each other so that several such members may be assembled together in different geometric forms and patterns.

4 Claims, 5 Drawing Figures

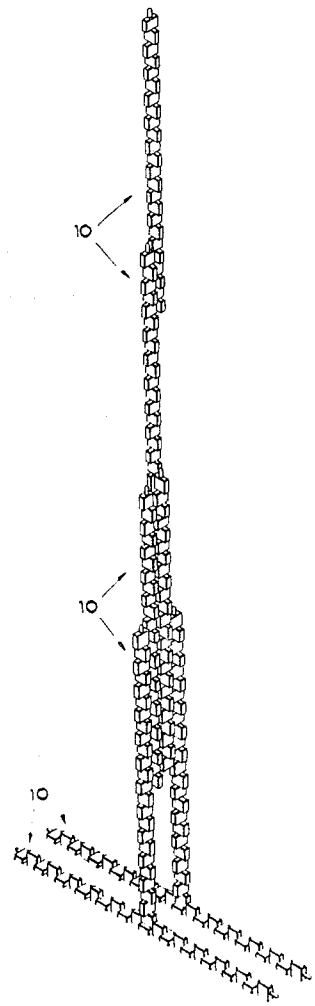


Fig 1

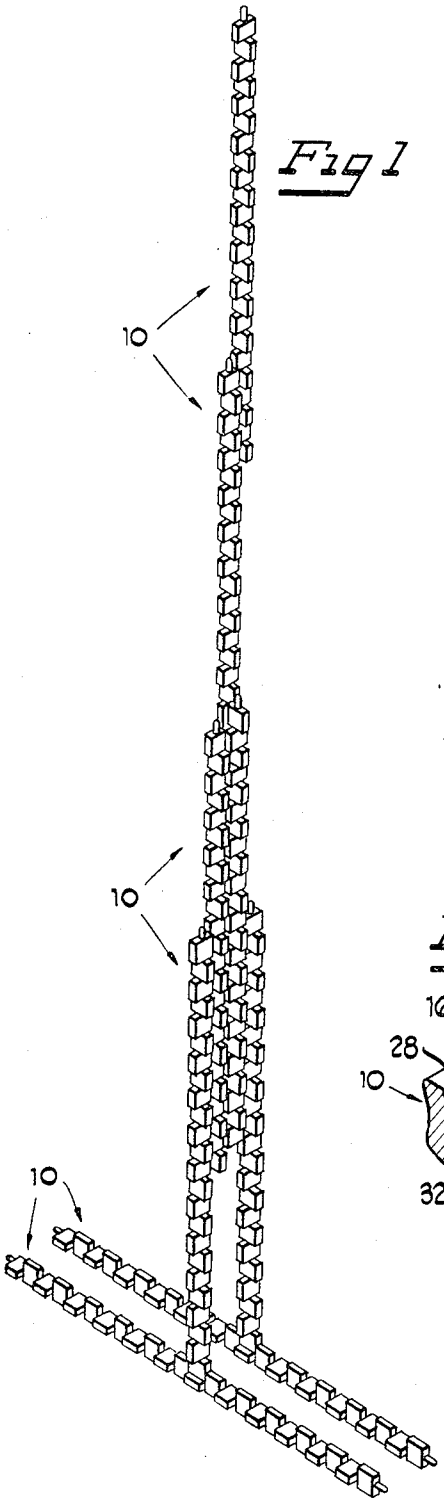


Fig 2

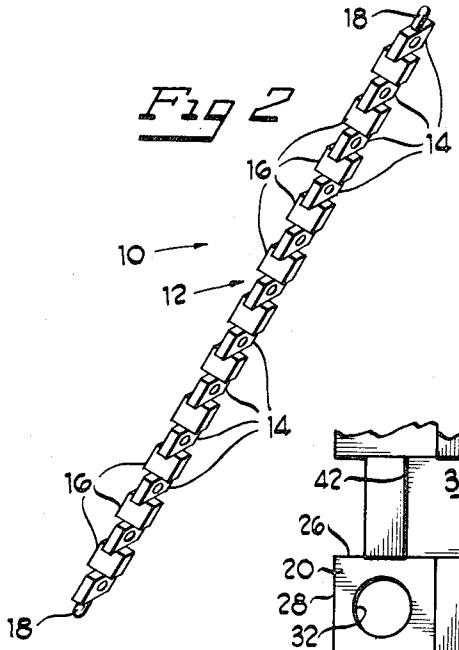


Fig 3

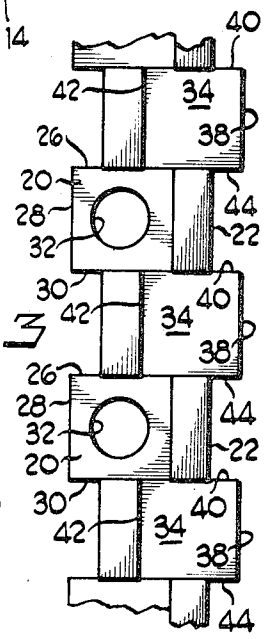


Fig 4

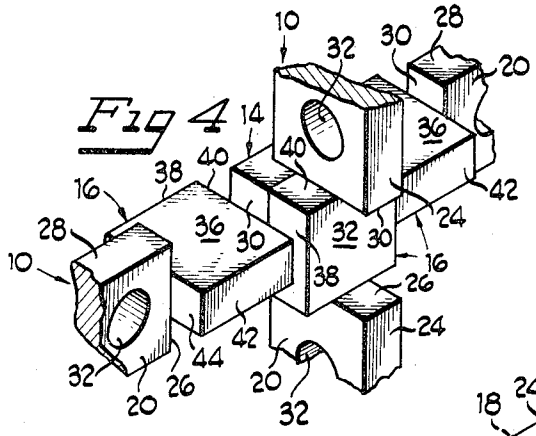
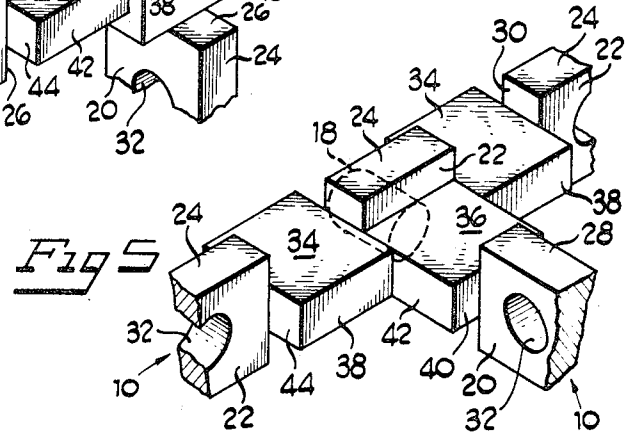


Fig 5



INVENTOR
NORMAN T. McFARLAND
BY Hofgren, Wegner, Allen, Stellman & McCord
ATTORNEYS

ELEMENTS HAVING ALTERNATING MUTUALLY PERPENDICULAR FORMATIONS PERMITTING INTERFITTING

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to craft and hobby devices and more particularly to a novel craft and hobby device of the building and construction type.

2. Brief Description of the Prior Art

Hobby or craft-type construction sets have become increasingly popular in recent years. The concept of an individual being able to freely design his own creation from basic material supplied in the kit has been well-received. Most such forms of activities involve materials which must be cut or trimmed to desired size and must be connected or affixed together by means such as adhesives or the like.

In the field of children's toys, there are available on the market, different construction-type toys wherein the parts are assembled together by a mating interfitting relationship. The desirable attributes of such toys are that securement is obtained by the frictional interfitting of the components themselves so that assembly of a structure made from the parts is simplified. Further, the devices may be disassembled at will and reassembled into different shapes or patterns or structures, time and time again.

It is the object of this invention to provide a hobby or craft construction unit which is secured together by frictional interfitting of the common portions of the unit so that several such units may be assembled together to form limitless structures or designs at the individual creative whim of the user.

SUMMARY OF THE INVENTION

This invention is directed, in brief, to the provision of an improved craft construction set of a plurality of identical units having frictionally interfitting portions.

The best mode currently contemplated for carrying out the invention includes the provision of a plurality of identical units, each having a generally elongate body with alternately disposed transversely arranged portions, preferably in the form of identical polyhedrons with alternate portions having apertures therein. The opposite ends of the body are provided with pin-like protrusions of a size and shape to be snugly received in the apertures of the alternate portions. The alternate transverse disposition of the body portions provides successive pairs of spaced shoulders of a size and shape to snugly receive the free side walls of a portion on the body of another like unit or to snugly receive the shoulders of portions of another like unit so that units may be assembled together laterally or transversely by the frictional interfitting of the shoulders and body portions, as well as by insertion of the pins into the apertures of some of portions of the body of a like unit.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic perspective view of several of the units of this invention assembled together to form a tower-like structure;

FIG. 2 is a perspective view of one of the construction units of this invention;

FIG. 3 is a fragmentary enlarged view of a portion of the construction unit of this invention;

FIG. 4 is a fragmentary enlarged view showing the transverse frictional interengagement of two of the construction units of this invention, and;

FIG. 5 is a fragmentary enlarged view showing the interengagement of two of the construction units of this invention by means of the insertion of a pin portion of one unit through an apertured portion of another.

While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail a specific embodiment therefor, with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The construction units **10** of this invention are preferably made of a semi-rigid slightly yieldable plastic material. The units **10** have an elongate body, generally designated **12**, made up of alternately arranged, transversely disposed body members **14** and **16**. The body members **14** and **16** are of regular geometric configuration and also are preferably of generally identical dimension as will be explained. The opposite ends of the body **12** are provided with outwardly projecting pin members **18**.

Each of the alternately disposed transversely arranged body members **14** and **16** is preferably a polyhedron. For example, the member **14** has opposite faces **20** and **22** of generally rectangular shape, and four perpendicularly joined side walls **24**, **26**, **28** and **30**. In addition, a center opening **32** extends through the two opposite faces **20** and **22** in each of the members **14**. This opening **32** is preferably of a size and shape to snugly receive the pin member **18** in frictional fastening engagement therewith.

Each body member **16** also is a polyhedron which is generally identical to member **14** but without a center opening. Thus, each body member **16** is provided with opposite rectangular faces **34** and **36** and bounded by four perpendicularly joined side walls **38**, **40**, **42**, and **44**.

The distance between the side walls **40** and **44** and **38** and **42** is generally identical to each other and also, generally identical to the dimension between side walls **26**, **30** and **24** and **28**. The members **14** and **16** are disposed adjacent to each other in planes arranged 90° apart. Because of this planar and dimensional relationship, each member **14** or **16** of one unit is in a potential interfitting relationship with a pair of members **14** or **16** of another unit.

Each member **14** and **16** has two free parallel side walls **24–28** and **38–42**, respectively, which extend generally in the direction of the length of the body **12**. Each member **14** and **16** also has two parallel side walls **26–30** and **40–44** which extend generally perpendicular to the other side walls and to the length of the body **12**. Side walls **26** and **30** are joined to side walls **44** and **40** respectively, of adjacent perpendicularly oriented body members **16**. The free side walls and adjacent portions of the perpendicular side walls provide surfaces which may be frictionally gripped between perpendicular side walls of members of another unit **10**. The perpendicular side walls provide a series of opposed pairs of shoulders for gripping members **14** or **16** therebetween in a frictional interfitting relationship.

With reference to FIG. 4, two units may be connected together in a transverse orientation of the units relative to each other. As shown in FIG. 4, the face 34 of one body member, such as 16 of one unit 10, is in facial engagement with the face 20 of another body member 14 of the other unit 10, with the free side walls 38 and 42 snugly captivated in the shoulders afforded by the portions of side walls 40 and 44 of adjacent body units 16 of the other unit.

Two units 10 may also be assembled together in lateral juxtaposition as shown in FIG. 1, wherein the tower-like structure is created. In such event, the side walls of alternate portions, either 14 or 16, are juxtaposed against the face of a member 14 or 16 of another unit 10. This may be done with the two ends in a partial or full overlapping relationship.

Finally, as illustrated in FIG. 5, the units 10 may also be assembled together by the insertion of one pin 18 through an aperture 32 in one of the body members 14 of an adjacent unit. This will dispose two of the units 10 at a perpendicular relationship to each other.

With reference to FIG. 1, the two units 10 at the bottom of the Figure are connected to two upright portions of the tower by means of the pin 18 and aperture 32 connection illustrated in FIG. 5. The first two member units 10 are partially overlapped and laterally connected to two other units 10 which are fully overlapped and laterally connected to each other. Successive units 10 are also partially overlapped and laterally connected to each other to create the tower-like construction.

The construction units 10 of this invention provide the advantage of being easily assembled and disassembled by frictional interengagement of the several portions of like units. Further, the units may be secured together in three basically different modes. It is contemplated that some of the units could be crystal or translucent with other units being different brilliant colors to add to the fascination afforded in constructing different structures with the units 10 of this invention. It can be seen that an infinite variety of structural arrangements may result from the interengagement of a plurality of the units 10 of this invention and it is envisioned that the units would be sold as a set wherein several such members 10, such as 100 or so could be included in the set for use in constructing individually created structures.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, as some modifications may be obvious to those skilled in the art.

I claim:

1. A construction toy, comprising: an elongate body having a series of abutting alternately arranged, adjacent, first and second members, each of said first and second members having a pair of opposed, generally flat, faces and a plurality of side walls relatively narrow with respect to the faces, the side walls defining the periphery of each member, with faces of said first members at one side of said body all lying in a first plane and faces of said second members at one side of said body all lying in a second plane which is generally perpendicular to said first plane, said second members being permanently joined to said first members at the juxtaposition of adjacent side walls of said first and second members, said first and second members being of a size and shape so that side walls of said first members of said body may be snugly received between mutually facing side walls of alternate members of a similar body.

2. The construction toy of claim 1 wherein the first members have a generally centrally oriented aperture which extends through the faces thereof.

3. The construction toy of claim 2 wherein the body terminates in a projecting pin at at least one end, the pin being of a size and shape to snugly fit in the aperture of said first members.

4. The construction toy of claim 1 wherein the first and second members are identical polyhedrons.

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