

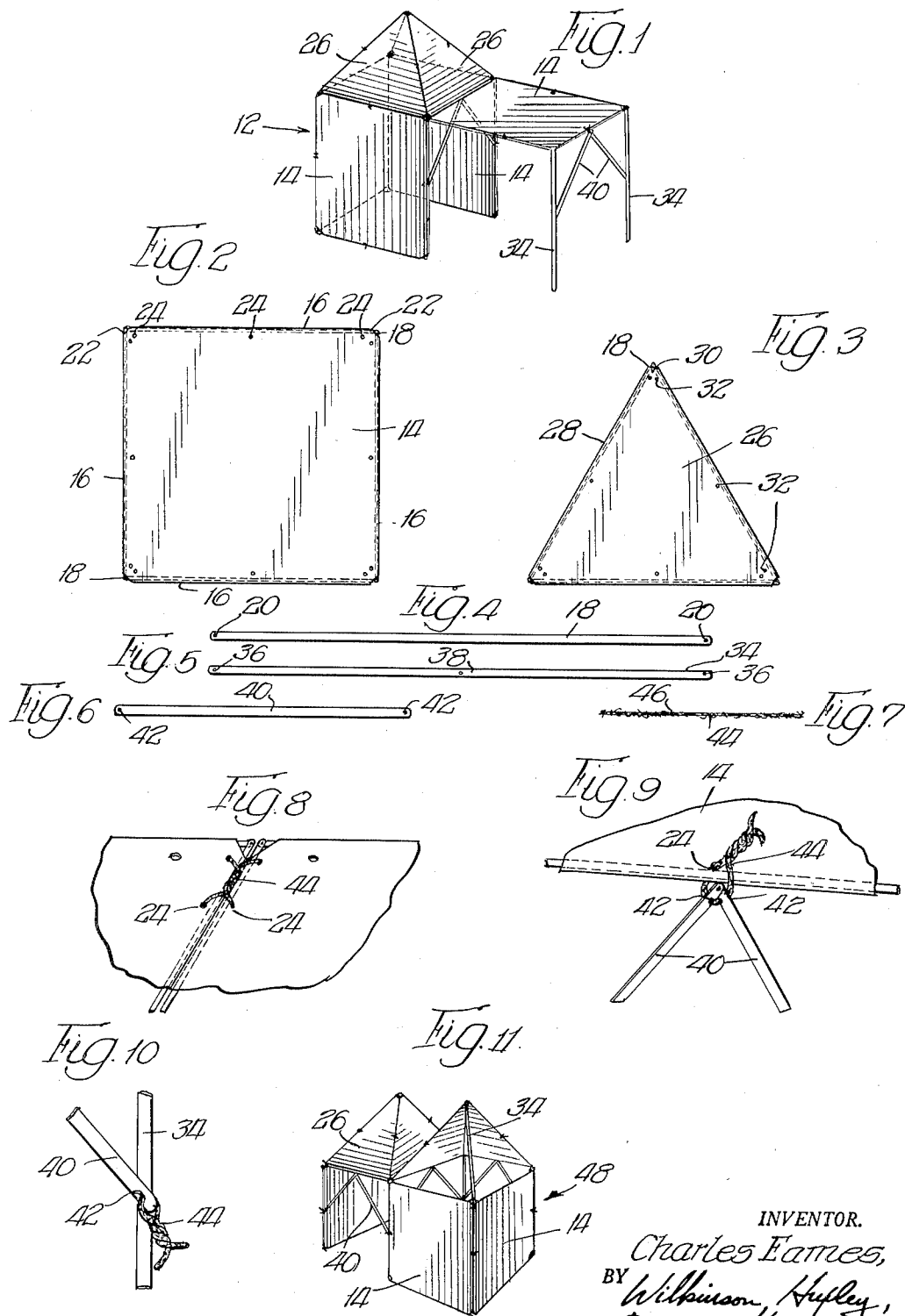
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BUILDING TOY

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BUILDING TOY

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This invention relates to a building toy and more particularly to a device of that character which may be readily assembled into a multiplicity of various forms.

Applicant in developing this invention has attempted to provide a building toy which has certain inherent characteristics that are particularly appealing to children of any age. Two of the elements which applicant has found to be most universally appealing in a device of this character are relatively large size and the presence of large areas of bright color.

It is therefore an object of this invention to provide a device of the character described which provides for the construction of objects which are unusually large, and which contain a plurality of relatively large, flat surfaces which may preferably be brightly colored.

Another object of this invention is to provide a device of the character described which may be readily and repeatedly assembled and disassembled, and which therefore may be used to construct a large number of unusual and attractive objects.

Yet another object of this invention is to provide a device of the character described which, although it may be used to produce objects of considerable size, may be readily packaged in a relatively small container.

Another object is to provide a building toy in which the component parts may be quickly and easily assembled to form building units in the form of covered geometric frameworks, which units, in turn, may be easily secured to one another in selected positions by the use of connecting members of simple and convenient construction.

Still another object of this invention is to provide a device of the character described which, although it may be repeatedly assembled and disassembled and may be packaged in a relatively small container, is capable of forming unusually large objects of various types which large objects have a high degree of rigidity and stability.

Further objects and advantages of this invention will become evident as the description proceeds and from an examination of the accompanying drawing which illustrates one embodiment of the invention and in which similar numerals refer to similar parts throughout the several views.

In the drawings:

Figure 1 is a perspective view of one form of object which may be constructed from one embodiment of the invention;

Figure 2 is a plan view of one form of unit or panel which is used to construct the object shown in Figure 1;

Figure 3 is a plan view of another form of unit or panel used to construct the object shown in Figure 1;

Figure 4 is an enlarged view in elevation of one of the elements used to make up the units or covered frames shown in Figures 2 and 3, namely, a frame member;

Figure 5 is an enlarged view in elevation of one of the elements used to make up the units or covered frames shown in Figures 2 and 3, namely, a prop;

Figure 6 is an enlarged view in elevation of one of the

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elements used to make up the units or panels shown in Figures 2 and 3, namely, a strut;

Figure 7 is an enlarged view in elevation of one form of connector which may be utilized to secure together the various units and elements in any desired manner such as that shown in Figure 1;

Figure 8 is an enlarged, fragmentary, perspective view of a portion of the object shown in Figure 1 showing the manner in which adjoining units or covered frameworks may be secured together;

Figure 9 is an enlarged, fragmentary, perspective view of a portion of the object shown in Figure 1 showing the manner in which the struts may be secured to one of the units;

Figure 10 is an enlarged fragmentary view in elevation of a portion of the object shown in Figure 1 showing the manner in which a strut may be secured to a prop;

Figure 11 is a perspective view of another form of object which may be assembled from one embodiment of the invention.

Referring now to Figure 1, one embodiment of the invention is there shown in assembled relation in the form of a child's playhouse, indicated generally by the numeral 12. This, of course, represents only one of the various forms which the assembled device may take. Two forms of building units or covered frames are provided in this embodiment, as shown in greater detail in Figures 2 and 3. Figure 2 discloses a square panel 14 which may be covered with any suitable flexible material, such as heavy kraft paper, or the like, and which is preferably finished in a suitable bright color. Each edge of the panel 14 has a narrow co-extensive pocket 16 formed therein, which pocket is adapted to receive in rather snug fitting relation a stiffening member 18, shown in greater detail in Figure 4. These pockets may be formed by folding over a portion of each edge of the covering 14 and securing the inner edge of the part so folded by a suitable adhesive to the main body of the covering 14. Each such frame member is preferably of a length substantially equal to one side of the square covering 14 and is provided with an opening 20 in each extremity extending transversely therethrough.

Each corner 22 of the covering 14 has a portion thereof removed so that rather than being in the form of a right angle, the corner 22 is beveled. This enables the frame members 18 to project outwardly from adjacent pockets 16 and to be disposed in abutting relation substantially at right angles to each other. A plurality of openings 24 are provided in the main body of the covering 14 immediately adjacent the inner edge of each pocket 16. Three such openings are preferably disposed in spaced relation adjacent to each pocket with the two outer openings being also adjacent to the beveled corners 22 and the third opening being preferably centrally spaced between those two.

Figure 3 discloses a triangular covering 26 which may be formed of the same material as the covering 14 and is substantially the same in every respect except for its triangular shape. More specifically, the covering 26 is preferably in the form of an equilateral triangle, the sides thereof being of substantially the same length as the sides of the square covering 14. Each of the three edges of the triangular covering 26 is provided with a elongated pocket 28 substantially co-extensive therewith and the corners 30 thereof are cut away in the same fashion as the corners 22 of the covering 14. Openings 32, similar to openings 24 in the covering 14, are also provided and frame members 18 may be disposed in the pockets 28 so that their ends project from the corners 30 into abutting relation with an adjacent frame member. The triangular coverings 26 likewise are preferably provided with a bright coating of solid color.

In addition to the coverings 14 and 26 and the frame members 18, props 34 are also provided which may have the form shown in greater detail in Figure 5. These members may be utilized in various manners such as shown in Figure 1 to support the horizontally disposed covered frames. These props 34 are preferably of the same length as the frame members 18 and may also be provided with a plurality of openings extending transversely therethrough, one such opening being disposed adjacent each end thereof and another such opening 38 being centrally disposed therein.

Suitable struts 40 may also be provided, one of which is shown in greater detail in Figure 6. These members 40 are of substantially the same construction as the props 18 but are shorter. They may be provided with an opening 42 adjacent each end similar to the openings 20 in the props 18.

Finally, suitable connectors 44 may be provided, one of which is shown in detail in Figure 7. These connectors may take the form of a pair of resilient, deformable wires twisted together with suitable fibrous material 46 disposed therebetween.

Such a connector, therefore, has a form substantially the same as the conventional smoker's article known as a pipe cleaner. As a matter of fact, pipe cleaners may be utilized in place of such connectors if the original ones become lost or damaged in use. This form of connector may be utilized to secure together all of the component parts of any form of structure which it is desired to produce.

As shown in Figure 1, for example, each of the covered frames 14 and 26 are secured to an adjacent covered frame in the manner best shown in Figure 8. After the frame members 18 are inserted in the coverings 14 and 26 in the manner shown in Figures 2 and 3, the covered frames may be secured together in any desired relationship by inserting connectors in adjacent openings in aligned and abutting edges of the covered frames, and then twisting the free ends thereof together, as shown in Figure 8. If desired, all of the pairs of adjacent openings may have a connector inserted therethrough and its free ends twisted together as just described. A number of such connections can be seen in the device or structure shown in Figure 1, both between adjacent square covered frames 14, which form the sides of the structure, and between adjacent square and triangular covered frames 14 and 26, respectively. Likewise, adjacent triangular covered frames 26 may be secured together to form the roof of the structure shown in Figure 1.

Similarly the connectors may be utilized to secure struts 40 to the edge of a panel, as best shown in Figure 9. Here the connector 44 has been passed through the openings 42 in the adjacent ends of the bracing members 40 and then through the opening 24 in the panel 14. The free ends of the connector have then been twisted together until the juncture so formed is made secure.

Obviously, as best shown in Figure 10, a similar connection may be made between the end of a strut 40 and the center of a prop 34. The connector 44 in this case is passed through the opening 42 in the end of the strut 40 and then through the opening 38 centrally disposed in the prop 34. The free ends of the connecting member are then twisted together as previously described.

As previously mentioned, the various components may be assembled in a multiplicity of various forms of which the form shown in Figure 1 is typical. This particular manner of assembly provides a child's playhouse which is easy to assemble and yet is of sturdy construction and very attractive appearance. The square coverings 14 and the triangular coverings 26 are preferably finished in a variety of solid colors so that when they are disposed in adjacent relationship they produce a very startling and attractive appearance. The components may be of such a size that small children can easily play within the structure so

formed, a convenient dimension for the sides of the panels being approximately three feet.

Obviously many other forms of the device can be readily constructed and a second such form is shown in Figure 11 which is made of substantially the same number of components as the form shown in Figure 1 but provides a double playhouse indicated generally by the numeral 48. Many other structures, such as various types of tents, a lemonade stand, an airplane and various unusual and attractive wall decorations, particularly suitable for party decorations and the like, can also readily be constructed.

In the drawing and specification, there has been set forth a preferred embodiment of the invention, and although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation. Changes in form and in the proportion of parts, as well as the substitution of equivalents are contemplated, as circumstances may suggest or render expedient, without departing from the spirit or scope of this invention as further defined in the following claims.

It is claimed:

1. A building toy capable of producing structures of various shapes which can be readily constructed from a plurality of geometric forms and being readily assembled and disassembled comprising a plurality of flexible equilateral coverings of various geometric shapes, said coverings being adapted to be compacted for packaging, an elongated pocket on said coverings adjacent each edge of said coverings and substantially co-extensive therewith, each said pocket being adapted to receive an elongated frame member; each covering being provided with a plurality of openings adjacent each pocket; a plurality of elongated frame members having an opening therethrough in each end thereof; a plurality of struts each having an opening therethrough in each end thereof and being of lesser length than said frame members, some of said struts also having an opening therethrough in each end thereof and substantially at the midpoint thereof; and a plurality of elongated deformable connecting members adapted to be inserted in said openings in said coverings, said struts and in said frame members and to have the free ends thereof, when so inserted, twisted together to position and maintain said coverings, said struts and said frame members in selected, substantially rigid association with one another.

2. A building toy capable of producing structures of various shapes which can be readily constructed from a plurality of geometric forms and being readily assembled and disassembled comprising a plurality of substantially square coverings of flexible sheet material, a plurality of triangular panels of flexible sheet material having sides of a length substantially equal to the sides of said square coverings, said square and triangular coverings being adapted to be compacted for packaging, an elongated pocket adjacent each edge of said coverings and substantially co-extensive therewith, each said pocket being adapted to receive an elongated frame member, each covering being provided with a plurality of openings adjacent each pocket, a plurality of elongated frame members having an opening therethrough in each end thereof, and a plurality of elongated deformable connecting members adapted to be received in said openings in said coverings and in said frame members and to have the free ends thereof, when so disposed, twisted together to position and maintain said coverings and said frame members in selected, substantially rigid association with one another.

3. A building toy capable of producing structures of various shapes which can be readily constructed from a plurality of geometric forms and being readily assembled and disassembled comprising a plurality of substantially square coverings of flexible sheet material, a plurality of triangular panels of flexible sheet material having sides of a length substantially equal to the sides of said square coverings, said square and triangular cov-

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erings being adapted to be compacted for packaging, an elongated pocket adjacent each edge of said coverings and substantially co-extensive therewith, each said pocket being adapted to receive an elongated frame member, each covering being provided with a plurality of openings adjacent each pocket, a plurality of elongated frame members having an opening therethrough in each end thereof, a plurality of struts having a plurality of openings therethrough, and a plurality of elongated deformable connecting members adapted to be received in said openings in said coverings and in said frame members and to have the free ends thereof, when so disposed, twisted together to position and maintain said coverings

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and said frame members in selected, substantially rigid association with one another.

References Cited in the file of this patent

UNITED STATES PATENTS

2,057,942	Fay -----	Oct. 20, 1936
2,059,964	Hempstone -----	Nov. 3, 1936
2,540,380	Schultheis -----	Feb. 6, 1951

FOREIGN PATENTS

584,988	Great Britain -----	Jan. 28, 1947
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