

[54] **FOLDABLE TOY BUILDING**
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[52] U.S. Cl..... **46/12; 46/17**

[51] Int. Cl..... **A65h 33/04; A63h 33/04**

[58] Field of Search..... 46/12, 17, 46/18, 19, 31, 21

[57] **ABSTRACT**

A toy building is formed of a pair of foldable portions joined by a removable archway spanning the distance between the front corners of the building portions when they are folded up back to back. Vertical resin hinges on each of the front corners fit in vertical slots in the archway so the archway can be slid down over the hinges or lifted up from the hinges and can join the building portions in freely pivotal motion relative to each other.

[56] **References Cited**

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11 Claims, 5 Drawing Figures

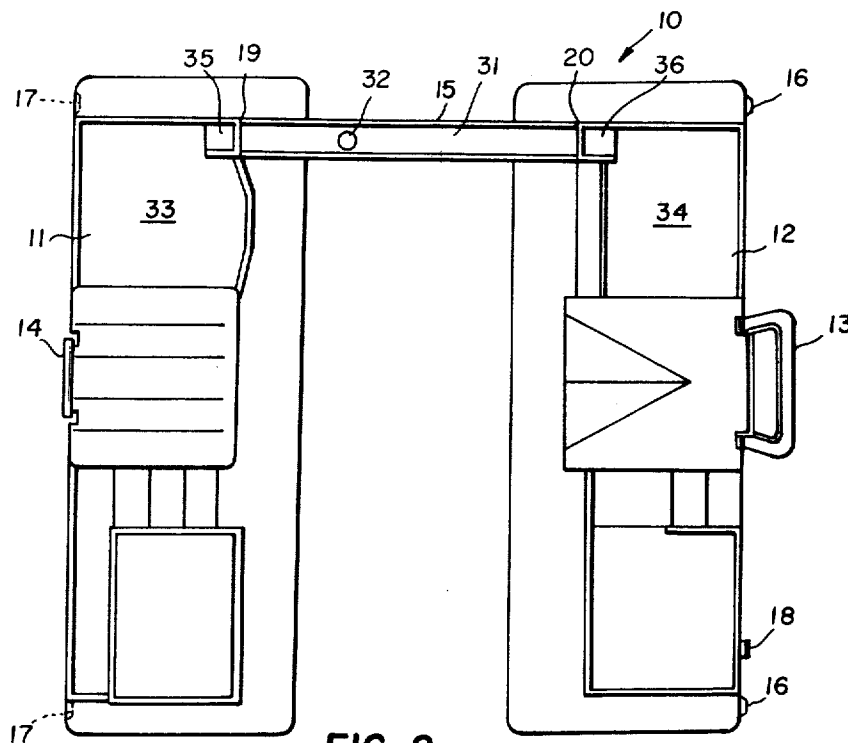
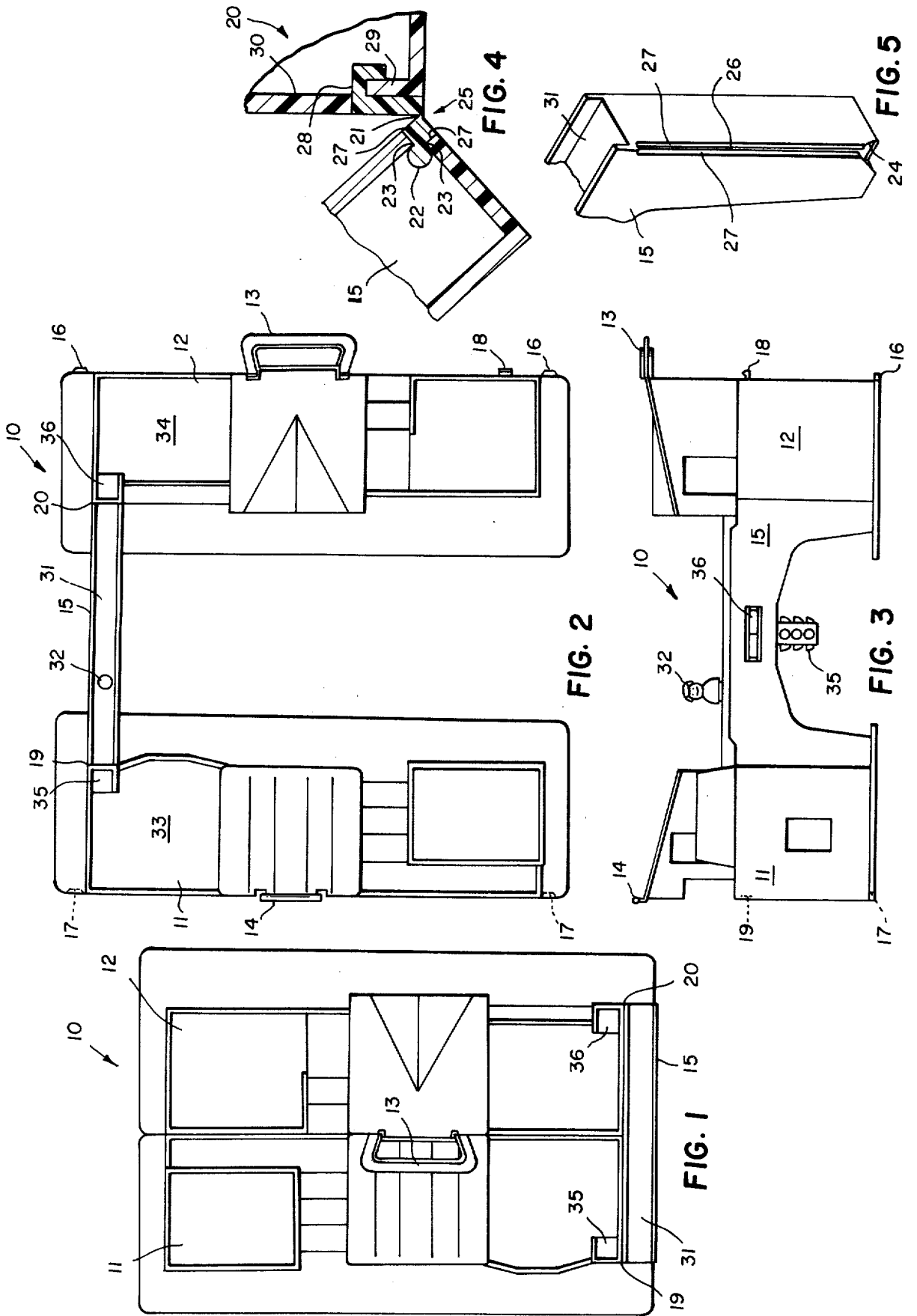


FIG. 2



FOLDABLE TOY BUILDING

This is a continuation of application Ser. No. 432,436, filed Jan. 11, 1974, and abandoned upon filing of this continuation application.

THE INVENTIVE IMPROVEMENT

Toy buildings have been made foldable before, and various hinge and folding arrangements have been suggested. The invention involves recognition of several advantages in joining building portions with a different sort of foldable connection that allows greater freedom of movement, easy disconnection, and a wider variety of play possibilities. The invention aims at simplicity, safety, ruggedness, durability, attractiveness, and functionality all combined with a wider range of orientation for building portions to enhance play and learning possibilities.

SUMMARY OF THE INVENTION

The inventive foldable toy building includes a pair of building portions orientable from a folded, back-to-back disposition to opened-up disposition with the building portions set at any desired angle relative to each other. An archway removably joins to one end of each of the building portions, and the archway spans the distance between the front corners of the building portions in back-to-back orientation. A vertically oriented resin hinge is arranged on each of the front corners of the building portions, and the hinges have opposed vertical grooves inward from the free ends of the hinges. A pair of vertical slots in the ends of the archway have sides that fit in the grooves of the hinges so the archway can be slid down over the hinges and lifted up from the hinges and can allow free pivotal motion of the building portions with the archway in place on the hinges.

DRAWINGS

FIG. 1 is a plan view of the inventive toy building in a folded-up disposition;

FIG. 2 is a plan view of the building of FIG. 1 in one of many opened-up positions;

FIG. 3 is an elevational view of the inventive building from the open end as shown in FIG. 2;

FIG. 4 is an enlarged, fragmentary cross sectional view on a horizontal plane of a corner construction for the inventive building; and

FIG. 5 is a fragmentary, perspective view of a corner of an archway for the inventive building.

DETAILED DESCRIPTION

The inventive building 10 is formed of a pair of portions 11 and 12 that can be folded up in a back-to-back disposition as shown in FIG. 1, or opened up to the face-to-face disposition shown in FIG. 2, or positioned anywhere between the orientations of FIGS. 1 and 2. An archway 15 joins building portions 11 and 12 and is freely pivotal relative to each building portion 11 and 12 for orienting portions 11 and 12 in an infinite variety of angles and positional dispositions. The invention lies primarily in the relationship of archway 15 to building portions 11 and 12 and to features involved in the use of archway 15 and the folding closed and opening up of building 10.

Building portion 12 has a carrying handle 13, and building portion 11 has a bar 14 that interlocks with handle 13 when building 10 is folded up as shown in

FIG. 1 and handle 13 is raised straight up for lifting building 10. Building portion 12 has projections 16 near its base for fitting into recesses 17 in building portion 11 when building 10 is folded as shown in FIG. 1. Also, building portion 12 has a latch 18 that hooks under an edge 19 of building portion 11 to latch portions 11 and 12 together when folded closed. Projections 16, latch 18, and handle 13, thus cooperate with recesses 17, edge 19, and interlocking bar 14 for securely holding the building 10 in the folded-closed position of FIG. 1 for carrying.

To unfold building 10, handle 13 is lowered to unlock bar 14, building portion 11 is lifted slightly to release latch 18, and portions 11 and 12 can then be pivoted freely relative to archway 15. Archway 15 is preferably hingedly connected to front corners 19 and 20 of building portions 11 and 12 and preferably pivots freely throughout approximately 180° relative to each corner 19 and 20. This allows building portions 11 and 12 to be placed in an infinite number of angular and positional relationships.

A hinge 25 connects archway 15 and corners 19 and 20 of building portions 11 and 12, and hinge 25 is best shown in the cross sectional illustration of FIG. 4. Hinge 25 is preferably extruded of resin material having a long flex life to form a "living" hinge freely pivotal around a thin vertical region 21. The free end of hinge 25 has a beading 22, and vertical grooves 23 are formed inward from beading 22. The end regions of archway 15 have a vertical slot 26 as best shown in FIG. 5, and the edges 27 of slot 26 fit in grooves 23 in hinge 25 so that archway 15 can be slid downward on hinges 25 and lifted upward from hinges 25. When edges 27 are seated in grooves 23, beading 22 of the hinge is received in a recess in the archway, as shown in FIG. 4. The base of hinge 25 is a vertical member 28 that is J-shaped in cross section to wrap around the end of a wall 29 at corner 20 and be locked in place by another wall end 30 at corner 20. Then when building portions 11 and 12 are fully assembled, J-shaped bases 29 are firmly interlocked with corners 19 and 20 to support hinges 25 in place.

Archway 15 has a channel-shaped top 31 forming a simulated walkway capable of supporting a toy figure 32 as shown in FIGS. 2 and 3. Building portions 11 and 12 have respective terraces 33 and 34 on upper levels, and simulated steps 35 and 36 so that a figure 32 can move between terraces 33 and 34 along channel walkway 31 from one building portion to another in play simulation. Archway 15 also includes a simulated traffic light 35 manually pivotal with a rotor 36 for play simulation of traffic control. Also, many top figures, vehicles, furniture, and other objects are preferably associated with building 10 for a wide variety of play possibilities and learning experiences.

Since slot 26 in archway 15 opens at a bottom beveled edge 24, archway 15 can be readily slid down over hinges 25 or lifted up from hinges 25 for disconnecting building portions 11 and 12. This allows building portions 11 and 12 to be used with archway 15 pivotally in place, or with archway 15 removed, and archway 15 can also stand apart from separated building portions 11 and 12. The parts of building 10 are preferably formed of resin material and secured together in interlocking fashion so that building 10 is rugged and durable. Portions 11 and 12 of building 10 are preferably divided into rooms or simulated buildings for various

purposes and include various generally known equipment and decorations for simulated play. The folding and unfolding of building 10 on hinges 25 is relatively easy and reliable, and the cooperation of archway 15 allows greater variation in building positioning than previously possible. Also, the resin walls of archway 15 adjacent slot 26 are preferably resilient enough to spread slot 26 open slightly and pop archway 15 off hinges 25 if excessive force is applied, and this prevents any damage to building 10 or archway 15 during rough play.

Persons wishing to practice the invention should remember that other embodiments and variations can be adapted to particular circumstances. Even though one point of view is necessarily chosen in describing and defining the invention, this should not inhibit broader or related embodiments going beyond the semantic orientation of this application but falling within the spirit of the invention. For example, those skilled in the art will appreciate the many materials, configurations, and structures possible in adapting the invention to various folding buildings.

I claim:

- 1. A foldable toy building comprising:
 - a. a pair of disconnectable building portions orientable from a folded, back-to-back disposition to an opened up disposition with said building portions set at any desired angle relative to each other;
 - b. a separate archway removably joinable to one end of each of said building portions for releasably connecting said building portions;
 - c. said archway spanning the distance between front corners of said building portions with said building portions in said back-to-back orientation;
 - d. a vertically oriented resin hinge arranged on each of said building portions at each of said front corners;
 - e. each of said hinges having a base portion interlocked with one of said building portions in a fixed relation and a free end region extending outward from said building portions and flexibly pivotal relative to said base portion and said building portion;
 - f. each of said hinges having opposed vertical grooves inward from said free end regions of said hinges making said hinges relatively narrower in the region of said opposed grooves and relatively wider in said free end regions outward from said opposed grooves; and
 - g. each opposite end region of said archway having

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a vertical slot, each of said slots having a closed upper end, an open lower end, and opening into a recess in said archway, the sides of said slots being shaped to fit in said grooves on said hinges so said archway can be slid down over said hinges and slid back up from said hinges with said free end regions of said hinges being received in said recesses of said archway and said sides of said slots having a vertically slidable fit on said hinges, the pivotal portions of which allow free pivotal motion of said building portions relative to each other and relative to said archway with said archway in place on said hinges, said building portions and archway including means by which each may stand apart from connection with the others.

2. The toy building of claim 1 wherein said sides of said slots are resilient enough to allow said archway to pop off said free end regions of said hinges if excessive force is applied.

3. The toy building of claim 1 wherein said base portions of said hinges are J-shaped in cross section and interlocked with vertical ends of walls of said building portions at said front corners.

4. The toy building of claim 1 wherein said archway includes a simulated traffic light.

5. The toy building of claim 1 wherein said archway has a channel-shaped top edge providing a simulated walkway.

6. The toy building of claim 1 wherein said hinges allow said archway to pivot through approximately 180° relative to each of said front corners.

7. The toy building of claim 6, including latch means for securing said building portions together in said back-to-back disposition.

8. The toy building of claim 6 wherein said base portions of said hinges are J-shaped in cross section and interlocked with vertical ends of walls of said building portions at said front corners.

9. The toy building of claim 8 wherein said archway includes a simulated traffic light and a channel-shaped top edge providing a simulated walkway.

10. The toy building of claim 9, including latch means for securing said building portions together in said back-to-back disposition.

11. The toy building of claim 10 wherein said sides of said slots are resilient enough to allow said archway to pop off said free end regions of said hinges if excessive force is applied.

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