United States Patent [19]

Yoen

[11] **3,900,985**

[45] **Aug. 26, 1975**

[54] **MODEL IN BOTTLE HOBBY KIT**

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[22] Filed: **Jan. 3, 1975**

[21] Appl. No.: **538,422**

[52] **U.S. Cl.** **46/16;** 46/19

[51] **Int. Cl.²** **A63H 33/08**

[58] **Field of Search** 46/12, 16, 18, 19

[56] **References Cited**

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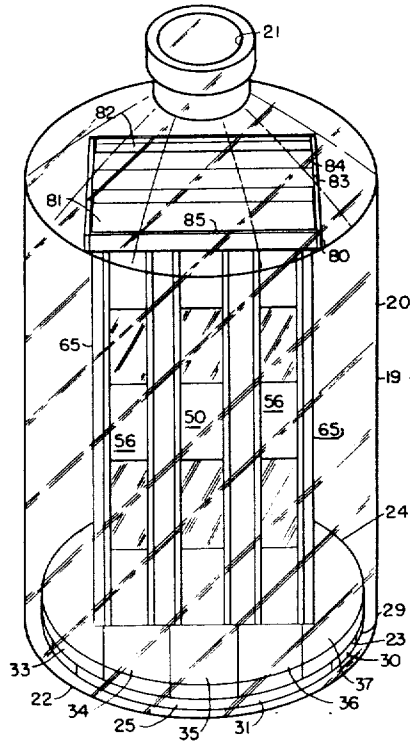
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Primary Examiner—Louis G. Mancene
Assistant Examiner—Robert F. Cutting
Attorney, Agent, or Firm—Peter L. Tailer

[57] **ABSTRACT**

A bottle with a flat bottom or side surface and a relatively small neck has a model structure of preformed parts to be assembled in the bottle. The model structure has a base of upper and lower layers, each layer being made up of narrow parallel elements, the elements of the upper layer crossing the elements of the lower layer and interlocking therewith, the assembled base jamming within the bottle on its flat surface. Upstanding elements of the model structure are forced into apertures in the upper layer of the base. The model is assembled on the base from interlocking parts. The elements of the base and the parts of the model are small enough in two dimensions to be inserted through the bottle neck for assembly therein.

8 Claims, 16 Drawing Figures



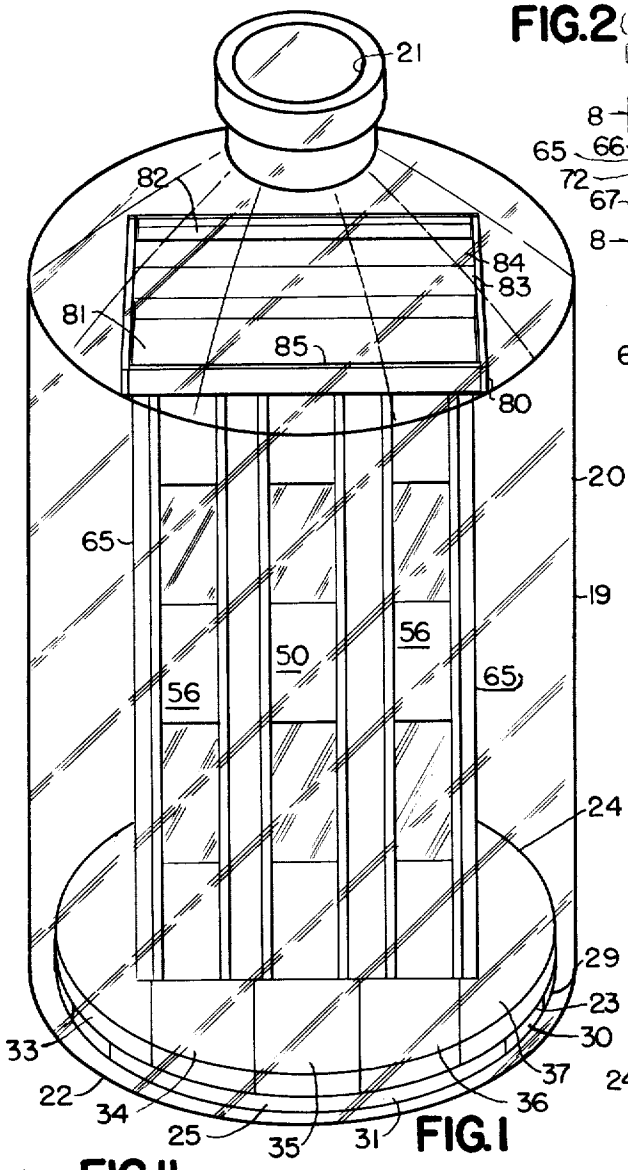


FIG. 1

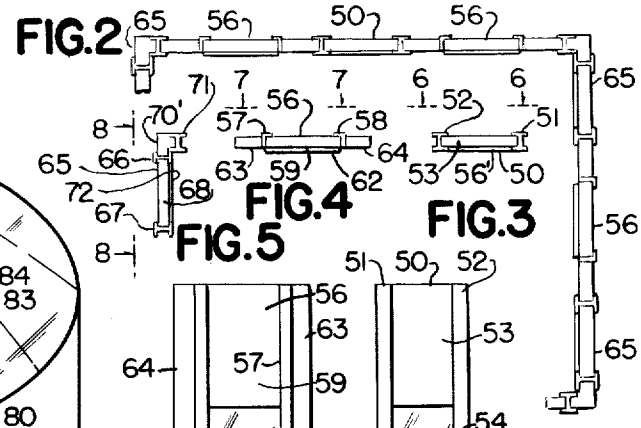


FIG. 2

FIG. 4

FIG. 3

FIG. 5

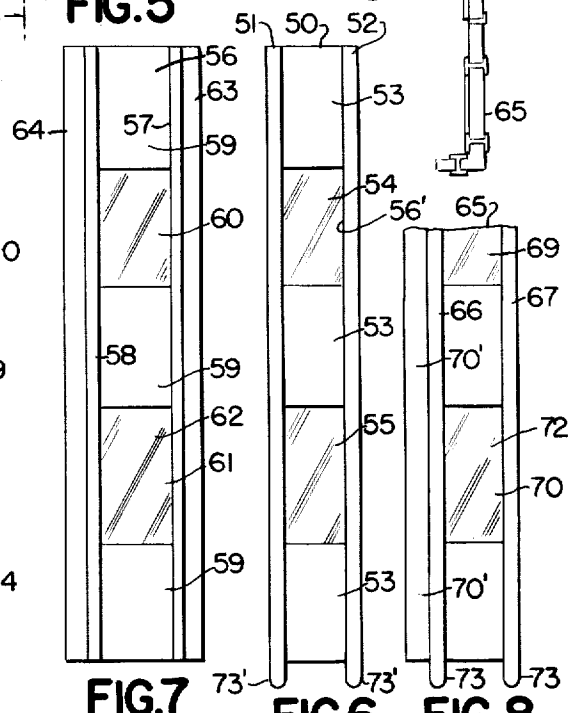


FIG. 7

FIG. 6

FIG. 8

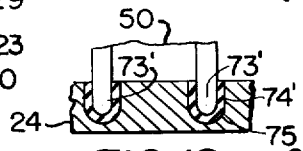


FIG. 12

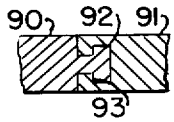


FIG. 13

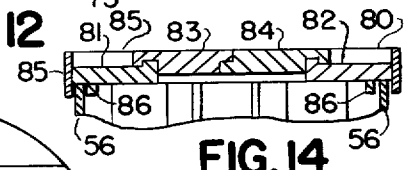


FIG. 14

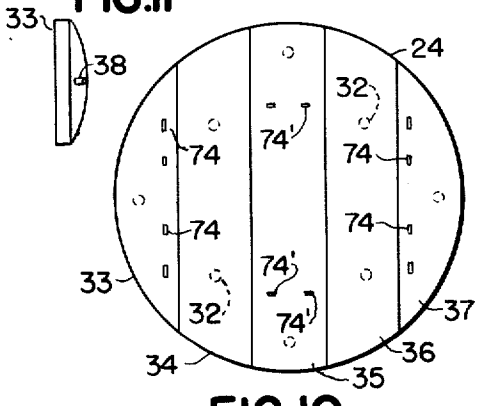


FIG. 10

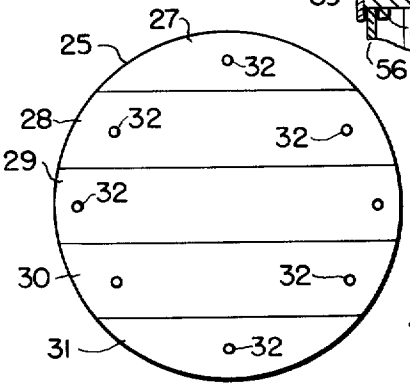


FIG. 9

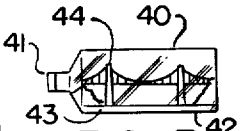


FIG. 15

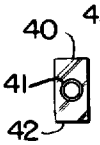


FIG. 16

FIG. 11

MODEL IN BOTTLE HOBBY KIT

BACKGROUND OF THE INVENTION

Hobby kits are well known that provide for models, such as ship models, to be assembled in bottles with relatively small necks. Usually a liquid which solidifies is poured into the bottle to harden and form a base. Models are then assembled using glue which is difficult to handle and which destroys the looks of the project when it drops on the wrong place or is smeared on the bottle surfaces. The hobby kit of this invention does not require glue to be used within the bottle and it provides more pleasure and satisfaction in its assembly.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a bottle with a model of a building assembled therein according to this invention;

FIG. 2 is a top view of the model of FIG. 1 with the roof removed and portions of two sides broken away;

FIGS. 3, 4, and 5 are, respectively, top views of a first wall panel, a second wall panel, and a corner panel of the model of a building;

FIGS. 6, 7, and 8 are front views taken on lines 6—6, 7—7, and 8—8 of the panels of FIGS. 3, 4, and 5, respectively, the panel of FIG. 8 having an upper portion broken away;

FIG. 9 is a top view of a lower layer of the model base;

FIG. 10 is a top view of an upper layer of the model base;

FIG. 11 is a perspective view showing the bottom of an element of the upper layer of the base;

FIG. 12 is a vertical section through a fragment of the upper layer of the base showing a fragment of a wall panel of the building model fixed thereto;

FIG. 13 is a horizontal section through fragments of modified model wall panels which interlock;

FIG. 14 is a vertical section through the roof portion of the building model of FIG. 1;

FIG. 15 is a side view of a bottle having a flat side surface and having a model structure assembled therein according to this invention; and

FIG. 16 is a view of the neck end of the bottle of FIG. 15.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIG. 1, a cylindrical bottle 20 has a wall 19, a narrow neck 21, and a flat bottom surface or wall 22. A base 23 has upper and lower layers 24 and 25 as may be seen in FIG. 10 and FIG. 9. Lower layer 25 is made up of elongated elements 27, 28, 29, 30, and 31. Each element 27–31 contains at least one aperture 32. Upper layer 24 is made up of the elongated elements 33, 34, 35, 36, and 37. The elements 33–37, as shown in FIG. 11, each have at least one projection 38 extending downward therefrom. The elements 27–31 and 33–37 all pass through neck 21 of bottle 20 and are assembled therein with the elements 27–31 parallel to and adjacent to each other. The elements 33–37 are placed parallel to each other and across the elements 27–31 with the projections 38 extending into the apertures 32 to provide an interlocked disk base structure 23. Base 23 is jammed onto the flat bottom surface 22 of bottle 20 to be tightly held by the bottle wall 19.

As shown in FIGS. 15 and 16, a square bottle 40 with a small neck 41 and a flat side 42 may have a base 43 assembled therein in two layers and jammed in place against flat side 42. A model structure 44, such as a bridge model, may be fixed to and erected on base 43 in the manner that will be hereinafter described.

Referring now to FIGS. 1–8, 10, and 12, first side panels 50 have edges formed from I beam stock 51 and 52 glued to a center web 53. Center web 53 is cut away or removed to form upper and lower window openings 54 and 55. Transparent material 56', such as cellophane, may be glued behind window openings 54 and 55. The assembly of the panels 50 is done outside bottle 20.

Second side panels 56 have angles 57 and 58 between which there is glued a center web 59 cut away to form window openings 60 and 61 behind which transparent material 62 may be glued. Edges 63 and 64 are glued to extend outward beyond angles 57 and 58.

Corner panels 65 have I beams 66 and 67 between which web 68 is glued and cut away to form window openings 69 and 70. An edge 70' extends from one I beam 66 or 67 and the edge 70' has a third I beam 71 glued to it at right angles. Transparent material 72 may be glued behind window openings 69 and 70.

As may be seen in FIG. 2, the walls of building model 18 require two first side panels 50, six second side panels 56, and four corner panels 65, two of the corner panels 65 being mirror images from above of the other two. The corner panels 65 each have lower projections 73 and the first side panels 50 each have lower projections 73'. As may be seen in FIG. 10, the upper layer 24 of base 23 contains aligned pairs of apertures 74 and 74' to receive, respectively, the projections 73 and 73'. In assembly in a bottle 20, after base 23 is jammed in place in the bottom of the bottle 20, the corner and first side panels 65 and 50 are fixed to the base by having the projections 73 and 73' inserted into the apertures 74 and 74'. The six second side panels 56 are slid downward into place in the grooves provided by the facing I beams of panels 50 and 65. The panels 50, 56, and 65 may be made from wooden I beam and angle stock and sheet balsa wood provided in the kit. The panels and base 23 would then be fabricated outside bottle 20 and assembled in it. The panels and the elements of base 23 may also be molded integrally of plastic or otherwise fabricated. As shown in FIG. 13, plastic molded or extruded side panels 90 and 91 may be joined in assembly in a bottle 20 by interlocking projections 92 received in a groove 93.

As shown in FIG. 12, rubber liners 75 may be inserted into apertures 74 and 74' to better hold projections 73 and 73'. If desired, projections 73 and 73' may be latex dipped to provide a coating 75 to seat securely in apertures 74 and 74'.

Referring now to FIGS. 1 and 14, a roof 80 has a front and rear member 81 and 82. Two center members 83 and 84 interlock and span the gap between members 81 and 82. Trim 85 is glued in sections to the appropriate edges of the members 81–84 to give the roof 80 a finished appearance. The trim 85 extends down outside of panels 50, 56, and 65 and cleats 86 extend down within them. Additional interlocks (not shown) may be provided to hold roof 80 in place even if bottle 20 is inverted. All the elements of model 18 and base 23 are fabricated to pass through the neck 21 before assembly.

This invention may provide hobby kits to build all types of model structures within bottles. Replicas of historic buildings, temples, bridges, pagodas and the like may be assembled of interlocking elements and fixed to bases of upper and lower layers of parallel elements, the elements of the upper layer being disposed across those of the lower layer and interlocked therewith.

While this invention has been shown and described in the best forms known, it will nevertheless be understood that these are purely exemplary and that modifications may be made without departing from the spirit of the invention.

I Claim:

1. A hobby kit comprising, in combination, a bottle having a relatively narrow neck and a flat surface, a base having upper and lower layers, each of said layers having elongated elements disposed side by side, said elongated elements of said upper layer extending across said elongated elements of said lower layer, said elongated elements of said upper and lower layers having interlocking means interlocking elements of said upper layers to said elements of said lower layers, said elongated elements passing through the neck of said bottle so that said base may be assembled therein and jammed on said flat surface of said bottle, and interlocking elements to form a model structure, said interlocking elements passing through said neck of said bottle so that a model structure may be assembled therein, at least some of said interlocking elements of said model structure and said elongated elements of said upper layer of said base having projections and containing apertures to receive said projections so that an assembled model structure may be fixed thereby to said base within said bottle.

2. The combination according to claim 1 wherein said flat surface of said bottle is the bottom of said bottle, said bottle having a cylindrical wall, said base being a disk jammed on said bottom within said cylindrical wall.

3. The combination according to claim 2 wherein said model structure is a building, at least some of said interlocking elements of said building being vertical wall panels having downward projections, said upper layer of said base containing apertures to receive said downward projections locking said wall panels thereto.

4. The combination according to claim 3 wherein said building is a rectangular building having four walls of interlocking vertical wall panels and having a flat roof of interlocking members disposed side by side and covering said four walls of said building.

5. The combination according to claim 4 wherein said elements of said lower layer of said base each contain at least one aperture and said elements of said upper layer of said base each have at least one projection, said apertures of said lower layer and said projections of said upper layer forming said interlocking means of said upper and lower layers.

6. The combination according to claim 1 wherein said bottle is rectangular having flat sides, one of said flat sides being said flat surface of said bottle.

7. A hobby kit comprising, in combination, a bottle having a relatively narrow neck and a surface, and interlocking elements to form a model structure passing through said neck of said bottle so that a model structure may be assembled therein, at least some of said interlocking elements of said model structure forming a lower portion of said model structure to be jammed on said surface of said bottle so that an assembled model structure is fixed thereby within said bottle.

8. The combination according to claim 7 wherein said lower portion of said model structure is a base having at least one layer of elongated elements disposed side by side and having interlocking means, said elongated elements passing through the neck of said bottle so that said base may be assembled therein and jammed on said surface of said bottle, and wherein at least some of said interlocking elements of said model structure and said elongated elements of said at least one layer of said base have projections and contain apertures to receive said projections so that an assembled model structure may be fixed thereby to said base within said bottle.

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