Aug. 22, 1961 R. L. RUBIN 2,996,832

TOY CONSTRUCTION KIT

Filed Jan. 20, 1959

FIG. 1

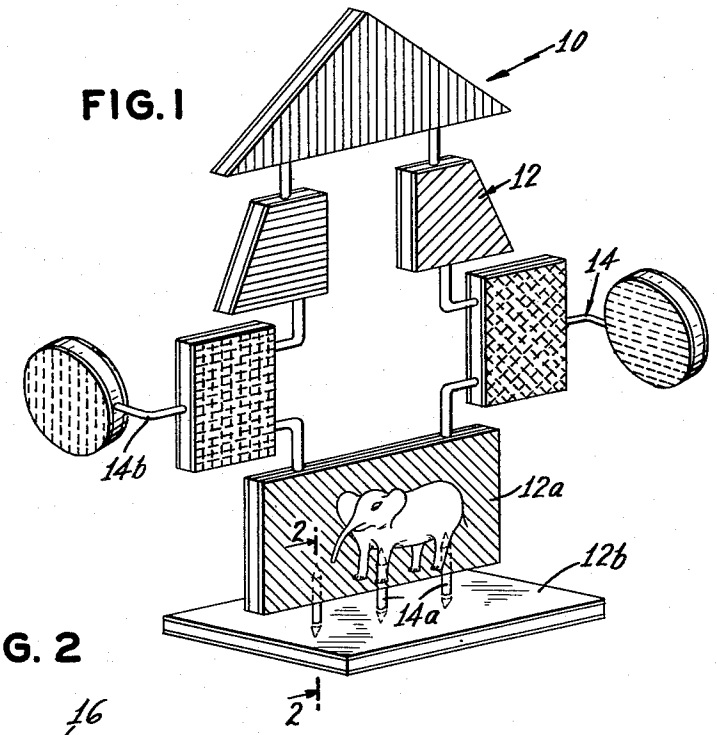


FIG. 2

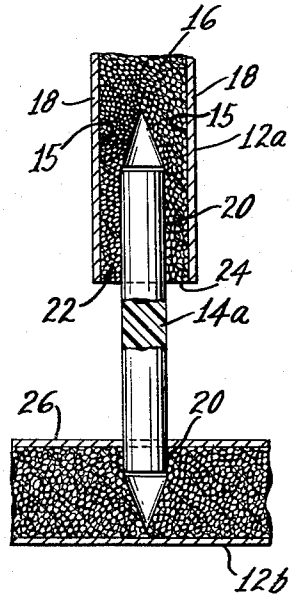
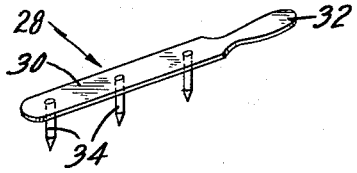


FIG. 3



INVENTOR.
Robert L. Rubin
BY Edwin Lenzoh +
Harry Cohn
ATTORNEYS

United States Patent Office 2,996,832 Patented Aug. 22, 1961

2,996,832

TOY CONSTRUCTION KIT

Robert L. Rubin, 12 Parkside Court, Brooklyn, N.Y.

Filed Jan. 20, 1959, Ser. No. 787,978
4 Claims. (Cl. 46—16)

The present invention relates to a toy construction or building kit having a plurality of members which may be assembled in a varied manner to provide an original and creative configuration of said members.

One of the objects of the present invention is to provide a toy construction or building kit comprised of a plurality of members having characteristics permitting each of the members to be readily connected and disconnected to each other.

Another object of the present invention is to provide a toy construction kit having a plurality of members which may be readily assembled by a child in accordance with the child's imagination and artistic inclinations to provide education and amusement for the child.

A still further object of the present invention is to provide a toy construction kit comprised of a plurality of members which are formed of a material having characteristics permitting the formation of mounting holes readily therein for the assemblage of said members.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description of the presently preferred embodiment of the invention, considered in connection with the accompanying illustrative drawings:

In the drawings:

FIG. 1 is a perspective view of a toy construction kit according to the present invention, in the assembled condition thereof;

FIG. 2 is a partial vertical view, in section, on an enlarged scale, taken on line 2—2 of FIG. 1; and

FIG. 3 is a perspective view of a hand tool that may be used to provide the mounting holes in each of the members of the toy construction kit shown in FIG. 1.

Referring now to FIG. 1 of the drawings, there is shown a toy construction or building kit **10**, pursuant to the present invention, in an assembled condition and comprised of a plurality of relatively thin blocks, chips or plate-like members **12**, each of said blocks being connected to each other by connecting elements or dowel pins, indicated at **14**. Each of the blocks or chips **12** consists of a flat laminated structure having opposite confronting flat surfaces **15** and having various peripheral shapes, such as triangular, circular, square, rectangular, rhomboidal, etc., as shown.

Referring now to FIG. 2, there is shown an enlarged cross-sectional view of the laminated structure of each of the blocks **12**. Said laminated structure consists of a layer of sheet material **16**, of plastic foam, interposed between two layers of relatively thin sheet material **18**, for example heavy paper which cover each of the flat confronting surfaces of the blocks. The plastic foam sheet material **16** has little resiliency or compressibility and is relatively rigid and easily penetrated to permit mounting holes or sockets **20** to be easily formed therein for receiving connectors, such as the previously mounted dowel pins **14**. The foam material is extremely light and may be easily cut into various shapes and sizes to provide blocks of convenient size and weight for handling by a child. The outer layers of sheet material **18** may be formed from material other than paper as long as said material may be easily pierced to form the holes **20** in each of the blocks. In addition, the outer layers of sheet material should be of such a nature as to permit the surfaces therein to be easily colored or provided with pictorial representations, as for example, the elephant shown

on the face of block **12***a* in FIG. 1. It will be noted in FIG. 1 that the outer layers of sheet material of each of the blocks **12** are of varying colors, as indicated by the varying pattern of lines shown thereon. The outer layers of sheet material **18** help to reinforce the foam material **16** and prevent breaking and crumbling of the walls **22** shown in FIG. 2, surrounding each of the holes **20**. Accordingly, as holes are made near the outer layers of sheet material **18**, said sheet material will prevent breaking through the relatively thin wall portions **22** as the holes are formed within the layer of foam material **16**. The plastic foam material **16** is of such a nature as to offer sufficient frictional engagement with the connecting pins **14**, when they are mounted in the holes **20**, to prevent the blocks **12** from becoming disengaged from the connecting pins. However, the force of the frictional engagement is sufficiently small to enable a child, with a minimum amount of effort, to easily disengage each of the blocks from the connecting pins and thereby disassemble the structure. A non-limitative example of a laminated structure having a polystyrene plastic foam material disposed between outer layers of kraft paper and having the characteristics just described is available under the trademark of "Fome Cor," said laminated material being manufactured by the St. Regis Paper Company, New York, New York.

Each of the holes **20** may be formed at any position in the block **12**, so that the blocks may be assembled at any angle and in any plane. It will be noted in FIG. 2, that the holes **20** are formed along the edge portion **24** of block **12***a* and along the face portion **26** of block **12***b*. A convenient hand tool for forming three holes simultaneously is shown in FIG. 3, said hand tool being indicated by the reference numeral **28**. Hand tool **28** comprises a flat board **30**, made of a suitable material, as wood, having a hand portion **32** and three pointed dowels **34** suitably attached to board **30** and depending therefrom. By placing the pointed ends of dowel **34** against the edge portion or face portion of a block, at any position desired on said edge or face portion, and by applying a small amount of pressure the outer layer of paper **18** and the foam material may be readily penetrated to provide the previously mentioned mounting holes **20** without the edges of said holes breaking or crumbling. In lieu of the hand tool **28**, an individual pointed dowel pin may be used by the child to form mounting holes in each of the blocks and said mounting holes need not necessarily be made perpendicular or parallel to the faces of the block but may be readily formed at any angle in the blocks, according to the imagination and desires of the child.

The previously mentioned connecting members or dowels **14** may be made of any convenient material, such as wood or plastic. The pins may be straight, as indicated at **14***a*, or they may be bent at any angle, as indicated at **14**b, so that the blocks may be assembled in varying planes. They also may be colored or transparent, as for example, dowel pins made from Lucite, to promote varying color schemes.

The varying colors and pictorial representations on the faces of each of the blocks, said blocks being of varying shapes, plus the provision of a plurality of colored and transparent connecting pins of varying shapes promote the exercise of the child's curiosity, artistic inclinations, and imagination in providing a structure of varying colors and picture schemes, and an abstract, original and creative configuration thereof, when the blocks are assembled by the child. In addition, the act of forming holes at varying positions along the face and edge portions of each of the blocks, by piercing the surfaces of the blocks with a pointed dowel or hand tool, provides an immense source of pleasure for the child as well as aiding in developing the mechanical aptitudes of the child

as the blocks are assembled, according to the pattern of holes formed by the child to provide the resultant structure.

While I have shown and described the preferred embodiment of my invention, it will be understood that various changes may be made in the idea or principles of the invention within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A toy construction kit, comprising a plurality of relatively thin plate-like members having various peripheral shapes, each member including a layer of plastic foam material having opposite confronting flat surfaces and an outer layer of relatively thin and penetrable sheet material covering each of said confronting surfaces to provide a reinforcing surface for the plastic foam material and a decorative covering for each of said flat surfaces, said plastic foam material being substantially rigid and readily penetrable to permit the manual piercing of said members by a pin-like member to form mounting holes at a plurality of positions along the sides and edges thereof, and a plurality of pins adapted to be detachably inserted in the formed mounting holes for detachably interconnecting said members in spaced relation to each other to form an original and creative configuration of said members in their assembled condition.

2. A toy construction kit, comprising a plurality of relatively thin plate-like members having various peripheral shapes, each member including a layer of plastic foam material having opposite confronting flat surfaces and an outer layer of relatively thin and penetrable sheet material covering each of said confronting surfaces to provide a reinforcing surface for the plastic foam material and a decorative covering for each of said flat surfaces, said plastic foam material being substantially rigid and readily penetrable to permit the manual piercing of said members by a pin-like member to form mounting holes at a plurality of positions along the sides and edges thereof, and a plurality of pins adapted to be detachably inserted in the formed mounting holes for detachably interconnecting said members in spaced relation to each other to form an original and creative configuration of said members in their assembled condition, certain ones of said pins having bent portions along their respective lengths extending in planes different from the other portions of the respective pin to permit the assembly of said members in a variety of planes.

3. A toy construction kit, comprising a plurality of relatively thin plate-like members having various peripheral shapes, each member including a layer of polystyrene plastic foam material having opposite confronting flat surfaces and an outer layer of relatively thin and penetrable sheet material covering each of said confronting surfaces to provide a reinforcing surface for the plastic foam material and a decorative covering for each of said flat surfaces, said plastic foam material being substantially rigid and readily penetrable to permit the manual piercing of said members by a pin-like member to form mounting holes at a plurality of positions along the sides and edges thereof, and a plurality of pins adapted to be detachably inserted in the formed mounting holes for detachably interconnecting said members in spaced relation to each other to form an original and creative configuration of said members in their assembled condition, certain ones of said pins having bent portions along their respective lengths extending in planes different from the other portions of the respective pin to permit the assembly of said members in a variety of planes.

4. A toy construction kit, comprising a plurality of relatively thin plate-like members having various peripheral shapes, each member including a layer of polystyrene plastic foam material having opposite confronting flat surfaces and an outer layer of relatively thin and penetrable sheet material covering each of said confronting surfaces to provide a reinforcing surface for the plastic foam material and a decorative covering for each of said flat surfaces, said plastic foam material being substantially rigid and readily penetrable to permit the manual piercing of said members by a pin-like member to form mounting holes at a plurality of positions along the sides and edges thereof, and a plurality of pins adapted to be detachably inserted in the formed mounting holes for detachably interconnecting said members in spaced relation to each other to form an original and creative configuration of said members in their assembled condition, some of said pins having bent portions along their respective lengths extending in planes different from the other portions of the respective pin to permit the assembly of said members in a variety of planes, certain ones of said pins being transparent and other of said pins being of different colors, and said sheet material of certain of said members having different colors and other sheet material of other members having different pictorial representations on their respective outer surfaces.

References Cited in the file of this patent

UNITED STATES PATENTS

228,052	Frost	May 25, 1880
2,011,714	Friedman	Aug. 20, 1935
2,244,343	Meyercord	June 3, 1941
2,618,901	Braun	Nov. 25, 1952

FOREIGN PATENTS

371,638	Great Britain	Apr. 28, 1932
452,749	Italy	Oct. 19, 1949