Dec. 22, 1953 H. V. BOLDING ET AL 2,663,419

CUBE-SUPPORTING PANEL

Filed April 10, 1952

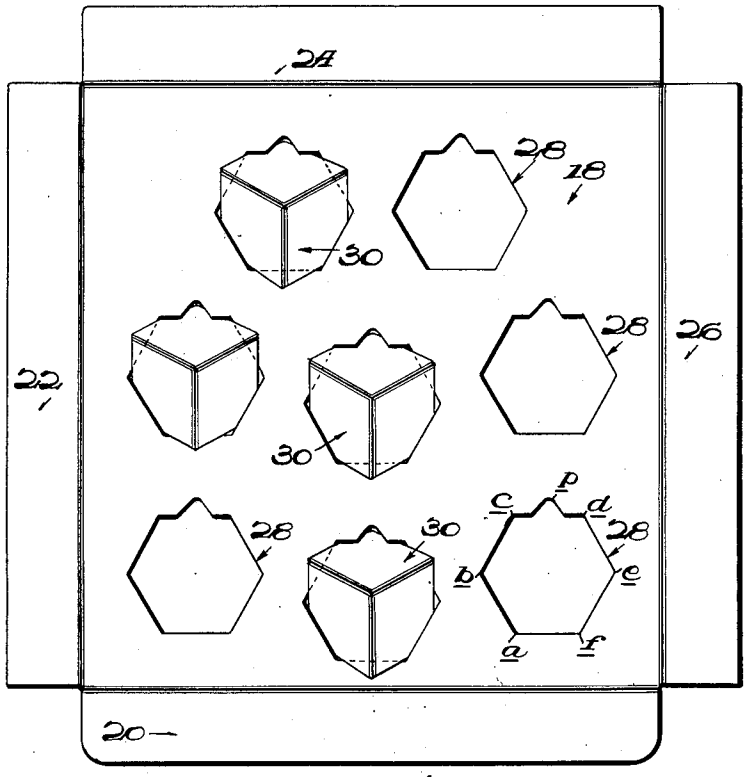


FIG. 1.

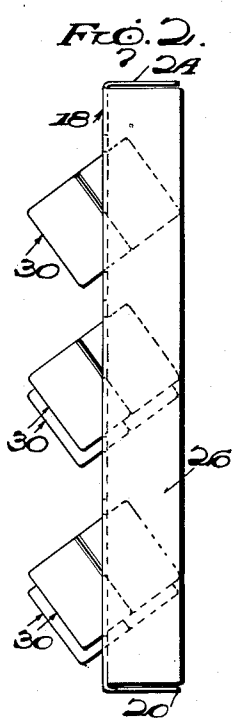


FIG. 2.

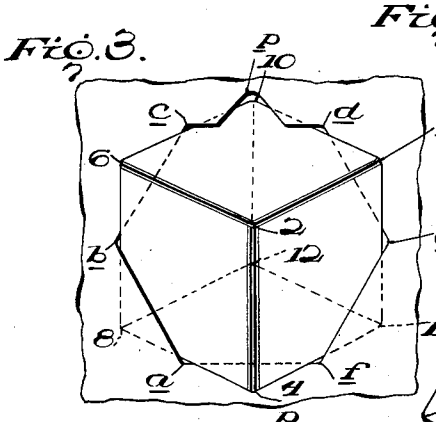


FIG. 3.

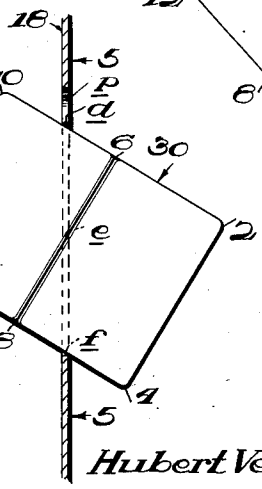


FIG. 4.

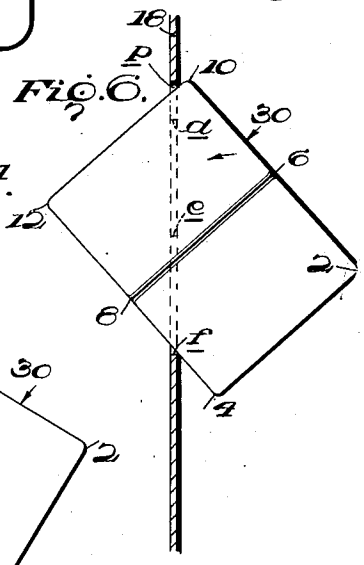


FIG. 6.

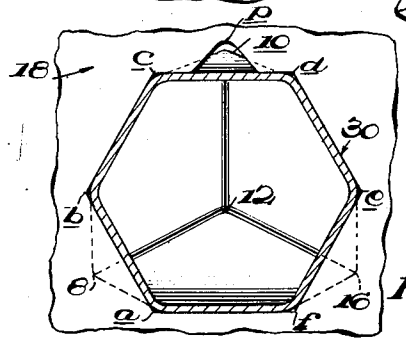


FIG. 5.

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CUBE-SUPPORTING PANEL

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2 Claims. (Cl. 206—79)

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This invention relates to a panel for supporting objects of cubical form. It is quite immaterial what the purpose and nature of the cube may be and it will be apparent that there are a great diversity of products and/or objects which exist in this particular geometrical form.

An object of the invention is to support a cube in such manner that substantially the entire expanse thereof is visible. This object is particularly pertinent when the invention is utilized in conjunction with such items as toys in the form of blocks, etc.

Another object of the invention is to firmly support the cube with a maximum of contact area and in such manner that the support itself is yieldable to accommodate shock or vibration transmitted to the object supported.

Still another object of the invention is to accomplish the above by use of a planar support which occupies a minimum of space and lends itself to ready packing and attractive packaging.

The invention seeks further to arrange for ease of loading the cubes into the supports and to facilitate ready removal and reinsertion of the same into the support.

Various other objects and meritorious features of the invention will become apparent from the following description taken in conjunction with the drawing, wherein like numerals refer to like parts throughout the several figures, and wherein:

Fig. 1 is a plan view of a partially loaded panel;

Fig. 2 is a side view;

Fig. 3 is an enlarged plan view of one cube supported in the panel;

Fig. 4 is a vertical section through Fig. 3;

Fig. 5 is a section along 5—5 of Fig. 4, and

Fig. 6 is a section illustrating one stage of manipulation during insertion of the cube in the panel.

Referring now particularly to Fig. 1, the display panel or support comprises a planar sheet 18 of flexible material such as cardboard or the like to the margins of which flaps 20, 22, 24 and 26 are preferably flexibly connected by means of a fold line.

Within the body of panel 18 are a plurality of openings broadly designated by the numeral 28 which are designed to receive and support, respectively, individual cubes which are indicated broadly by the numeral 30.

Each opening 28 is in the form of an equilateral hexagon the apices of which are designated *a*, *b*, *c*, *d*, *e* and *f*. The side *c*—*d* is notched substantially intermediate its length as clearly indicated in the drawings and the peak of the notch is designated *p*.

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The linear distances between oppositely disposed apices *a* and *d*, *b* and *e*, and *c* and *f* and the linear distance between the side *a*—*f* and the peak *p* of the notch are all substantially equal and slightly in excess of the length of the diagonal of one face of the cube to be supported in the opening.

The cube designated broadly by numeral 30 embodies corners 2, 4, 6, 8, 10, 12, 14 and 16.

The cube is readily inserted for positioning within the opening by holding it at an angle to the plane of the panel and sliding the edges 6—8 and 14—16 into the space between apices *b* and *e*. Such procedure brings the cube to substantially the position illustrated in Fig. 6 of the drawings where the corner 4 of the cube is disposed below and spaced outwardly from side *a*—*f* of the hex opening and corner 10 is disposed somewhat above the peak *p* of the notch. In this position the edge 10—12 of the cube bears against the notch peak *p*.

At this point the cube is rotated in a counterclockwise manner from the position illustrated in Fig. 6 so that the corner 10 of the cube passes through and under the notch peak *p*, thus bringing the cube into supported position as illustrated particularly in Figs. 3, 4 and 5. During this final rotative movement of the cube the unnotched portions of side *c*—*d* of the hex yield somewhat and, after the corner has passed through the notch, the unnotched portions of said side *c*—*d* move back into the plane of the supporting panel and bear against the upwardly disposed face of the cube as viewed in Figs. 1 and 3.

In this position the cube is seated firmly within the opening and no amount of reasonable shaking or vibration of the panel serves to release the same. The cube may readily be removed from the opening by reversing the procedure described in conjunction with insertion. The flex of the unnotched portions of side *c*—*d* of the openings is so small that a cubical object can be inserted and removed from the supporting opening countless times without seriously defacing the panel or in any way impairing its capacity for functioning in the desired manner.

When the cube is in position it will be noted that the plane of the panel passes through the geometrical center of the cube and the body of the cube is disposed symmetrically on opposite sides of that plane.

It should also be noted that, when the cube is seated within the opening, oppositely disposed sides of the panel opening bear against oppositely disposed faces of the cube and that opposite apices of the opening lie respectively closely adjacent to substantially the midpoint of diagonally oppositely disposed edges of the cube. This bearing of the margin of the opening against the surfaces of the cube, resulting in the particularly effective grip already described, is emphasized in Fig. 5.

For packaging purposes the loaded panel may be supported on the bottom of a container by means of flaps **20**, **22**, **24** and **26** which are folded downwardly for this purpose as clearly illustrated in Fig. 2. Preferably the width of these flaps is somewhat greater than the distance which the cubes extend away from the apertured supporting panel so that when packaged the cubes will not touch the bottom of the container. Due to such an arrangement the flexibility of the panel itself within which the cubes are supported permits limited vibration without causing the cubes to touch the bottom of the container. This is an important feature where fragile objects in cubical form are packaged.

While we have described a specific embodiment of the invention, the invention is limited only within the scope of the appended claims.

What we claim is:

1. A display for a cube comprising a planar panel of flexible material such as cardboard or the like having an equilateral hexagonal opening therein with a notch at substantially the midpoint of one of the sides and a cube so disposed within the opening that the plane of the panel passes through the geometrical center of the cube and similar and equal portions of the body of said cube are disposed on opposite sides of said plane, oppositely disposed sides of said opening bearing against oppositely disposed faces of said cube and opposite apices of the opening lying respectively closely adjacent substantially the midpoints of diagonally oppositely disposed edges of the cube.

2. A display for a cube comprising a planar panel of flexible material such as cardboard or the like having an equilateral hexagonal opening therein with a notch at substantially the midpoint of one of the sides and a cube so disposed within the opening that the plane of the panel passes through the geometrical center of the cube and similar and equal portions of the body of said cube are disposed on opposite sides of said plane, oppositely disposed sides of said opening bearing against oppositely disposed faces of said cube and opposite apices of the opening lying respectively closely adjacent substantially the midpoints of diagonally oppositely disposed edges of the cube, the peak of said notch being remote from the adjacent cube face.

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