

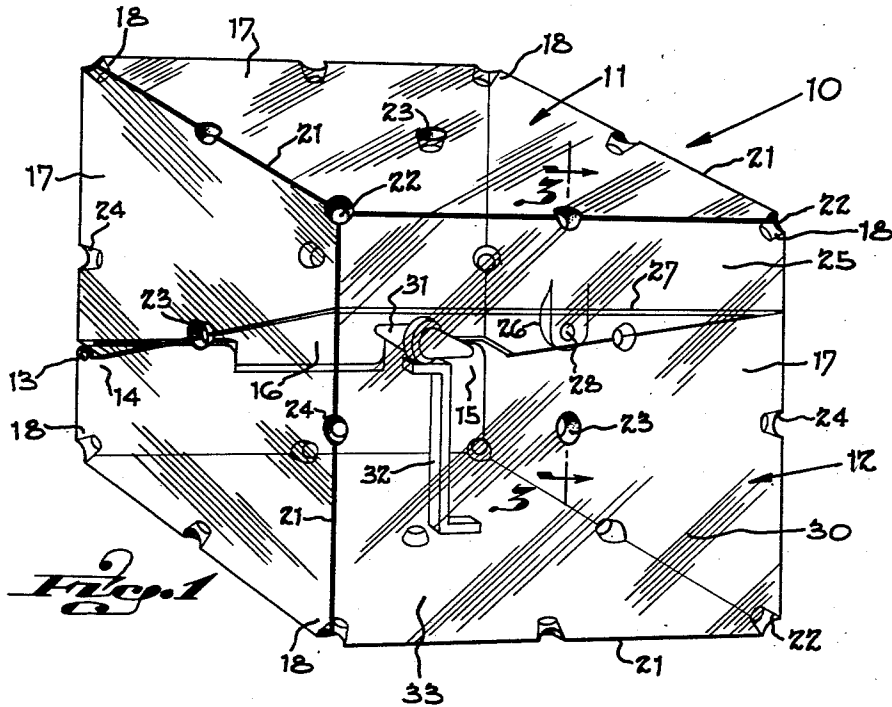
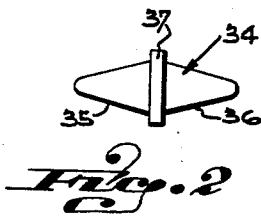
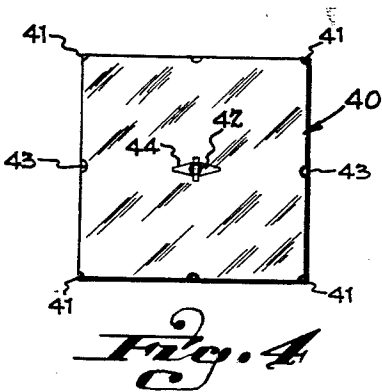
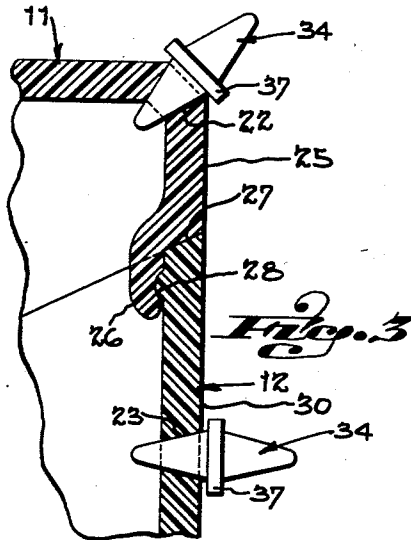
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THREE DIMENSIONAL GAME

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THREE DIMENSIONAL GAME

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This invention relates to games and is particularly directed to a novel three dimensional game in which pieces are positioned in a manner generally similar to the pieces in three dimensional tic-tac-toe.

The principal object of the present invention is to provide a three dimensional game which offers a large number of possible combinations and moves and thereby provides an intriguing test of skill between contestants, requiring both a mathematical and spatial analysis of the game board and pieces.

More particularly, the game apparatus of this invention comprises a transparent cubical member constituting the playing surface or board. Each corner of the cubical member is provided with an opening adapted to receive and frictionally support a game piece. Similar openings are formed in the center of each face of the cube and in the center of each edge of the cube. A sufficient number of game pieces are provided for insertion in each of these openings. These game pieces are preferably formed of a slightly compressible material such as polyethylene or rubber so that when a piece is inserted in an opening it is securely held in place by frictional engagement with the surrounding wall. The pieces are divided in accordance with the number of players, each player's pieces being of a distinguishing color. In addition to these pieces, a common piece belonging to all of the players is permanently mounted in the center of the cube.

In playing the present game, the players alternately insert their pieces in the openings on the surface of the cubical member until all of the spaces have been occupied. Each player is awarded a certain number of points for each opening or "space" that he occupies and is awarded an additional number of points each time he completes a straight line containing three of his pieces. As explained below, the number of points awarded for occupying a given space varies inversely with the number of lines that can be completed using the opening. Thus, a player is faced with the choice of attempting to obtain a maximum score by occupying spaces with a high point value or by occupying spaces from which he can complete a maximum number of lines. Since any player can use the center piece in forming a straight line, there are a large number of possible lines which can be formed using openings of different point values; and the choice of the best possible move can become relatively complex.

The cubical member is formed from a hard clear material such as Lucite or the like. Such a member is highly advantageous as a playing board since its faces clearly define six of the nine major planes along which lines can be formed. Thus, when game pieces are placed on the surface of such a cube, a player obtains the maximum "feel," or perception, of a three dimensional game and is greatly aided in visualizing the various possible lines which can be formed from any particular space.

The present game apparatus is further advantageous in that once the pieces are inserted they are firmly held in position. Consequently, the cube may be picked up

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and inverted; and can be held in any position for inspection. This facilitates study of potential moves since the cube can be viewed from many angles before a move is selected. An accurate analysis of possible moves is further aided by the complete symmetry of the cubical playing board.

In one preferred form of apparatus, the cubical member is constituted by a hollow box formed of Lucite or the like. The walls of the box are provided with corner, edge and facial openings as described above. A "common" game piece is mounted in the center of the box in any suitable manner such as by securing the piece to a rod formed integral with one wall of the box and extending from the wall to the center of the box. The box lid is preferably hinged to the box bottom and suitable cooperating lugs are provided for frictionally holding the lid in a closed position. Alternatively, the lid can be entirely separate from the bottom section of the box and can be held in position by any suitable form of frictional gripping means.

This preferred form of cubical member is particularly advantageous since it not only forms the playing board for the game but also can be used to store and carry the game pieces.

Alternatively, it is contemplated that the cubical member can be in the form of a solid transparent cube having a "common" game piece molded in the center thereof. It is to be understood that this solid cube is provided with openings at its corners and in the center of its edges and faces as described above.

One advantage of the present game apparatus is that it can readily be carried from place to place so that the game can be used by people while they are traveling, commuting or the like. The cubical member can be of any size from approximately an inch cube to several inches. Thus the game can readily be slipped into the user's pocket or purse.

Another advantage of either form of game apparatus is that it is extremely durable and is particularly adapted to withstand the hard usage incident to the use of the game by children or by people while traveling.

A still further advantage of the present invention is that the apparatus is extremely economical to produce. Both the cubical member and the game pieces can readily be molded from thermomolding or thermosetting materials. There are no machining or assembly steps required.

These and other objects and advantages of the present invention will be more readily apparent from a consideration of the following detailed description of the drawings illustrating preferred embodiments of the invention.

As shown in the drawings:

Figure 1 is a perspective view of a preferred embodiment of the present invention.

Figure 2 is an elevational view of one form of game piece.

Figure 3 is a cross sectional view taken along line 3—3 of Figure 1.

Figure 4 is an elevational view of a modified form of cubical support member.

One preferred form of game apparatus constructed in accordance with the principles of the present invention is shown in Figure 1. As there shown, the game apparatus comprises a cubical support member, or playing surface 10. In this embodiment, the support member 10 is hollow and is in the form of a cubical box having a lid section 11 and a base or bottom section 12. These two sections are hinged together by means of a hinge pin 13 which passes through wall sections 14 and 15 of base 12 and wall section 16 of the lid 11.

Cubical member 10 is transparent and is preferably formed of a hard plastic material such as Lucite or the

like. Cubical member 10 comprises six faces 17, eight corners 18 and twelve edges numbered 21. An opening 22 is formed in each of the corners of the cube. Similar openings 23 are formed in the center of each cube face; and additional openings 24 are formed in the center of each edge 21 of the cube. As best shown in Figure 3, openings 22, 23, and 24 taper slightly inwardly; alternatively these openings can be cylindrical. Wall section 25 of lid 11 opposite from hinge section 16 is provided with a finger 26. This finger extends downwardly from edge 27 of wall 25 and engages a projection 28 formed on the inner surface of wall section 30 of base 12. This projection and finger 26 function to frictionally hold the lid in the closed position.

In addition to these elements, cube 10 is provided with a permanent "common" center game piece 31 disposed in the geometric center of the cube. This game piece is formed integral with or is secured in any suitable manner such as by means of an adhesive to a transparent post member 32. Member 32 may be molded integral with the bottom wall 33 of the cube or can be secured to a wall of the cube as by means of a suitable adhesive. As explained below, center game piece 31 belongs to each of the contestants.

It will be appreciated that each of the faces 18 of the cube is provided with nine openings disposed in a rectangular array identical with the squares in the familiar two dimensional game of tic-tac-toe. An additional nine-point rectangular array is contained in a horizontal plane extending through the common piece 31. Similar rectangular arrays are contained in the longitudinal and transverse vertical planes passing through the common member 31. In any of these arrays, it is possible to complete eight straight lines of three openings. Four other lines of three openings can be formed along the diagonals of the cube.

It will further be appreciated that from each corner opening 22, seven straight lines containing three openings can be formed. Three of these lines lie along the adjacent edges of the cube, three more lie along the diagonals of the adjacent faces of the cube, and one line lies along the diagonal of the cube through the center piece. In a similar manner from one of the "facial openings" 23 five lines consisting of three aligned apertures can be constructed. Finally from an edge opening 24 four lines containing three apertures can be formed.

In addition to cubical member 10, the present game apparatus includes a plurality of game pieces or markers 34. Sufficient markers are provided to occupy each of the openings formed in the cube. These game pieces 34 are preferably formed of a slightly compressible material such as rubber, polyethylene, cork or the like. The pieces of each player are preferably colored a distinctive color such as red, blue or the like. Common piece 31 is preferably multi-colored; that is, it contains a portion of the color of each player's pieces to remind the players that it is a common piece. Alternatively, piece 31 may be of a completely distinguishing color not used for any of the players' pieces.

As shown in Figures 2 and 3, one suitable form of game piece 34 is configured in the shape of two opposed conical sections 35 and 36 interconnected by a central angular flange 37. Game pieces 34 are configured and dimensioned so that when a piece is inserted in one of the openings 22, 23 and 24, the game piece is frictionally held in place and extends outwardly from the surface of the cubical playing member as best shown in Figure 3.

To illustrate the manner in which the present game is played, assume that there are two contestants each of which is provided with 13 playing pieces 34 of a distinguishing color. In commencing the game, the players determine the order of play in any suitable manner such as by flipping a coin. The first player then inserts one of his game pieces in any desired opening. The second

player then inserts one of his pieces in any unoccupied opening and the players continue alternately to place their pieces in any unoccupied opening until all of the openings have been filled.

The object of the game is to amass the highest total number of points. Points are awarded as follows: for each piece placed in a corner opening 18, a player receives four points. For each piece placed in an opening 23 in the center of a face of the cube a player scores five points. For each piece placed in an opening 24 in the edge of the cube a player scores seven points. In addition to the points scored for occupying an opening, a player scores ten points each time he completes a row, or line containing three of his pieces. It will be recalled that the center piece 31 belongs to both players.

The essence of the game is that the number of points obtained by occupying an opening varies in an inverse manner with the number of possible lines that can be completed from the opening. Thus, for example, a player can complete seven lines from any of the corner openings 22, but receives only four points for occupying such an opening. On the other hand, a player can complete only four lines from one of the edge openings 24; however he receives seven points for occupying one of these openings. Thus a player must decide whether to attempt to occupy the high point value openings or to attempt to achieve a maximum score by completing the most lines. His analysis of the possible moves available to him is facilitated by the fact that the game pieces are tightly held in place so that the cube may be inverted or turned at any desired angle. Additionally, the six faces of the cube define six of the nine major planes giving a player a much more acute perception of a cubical array than is possible with a plurality of spaced shelves or the like.

The hollow cubical support member 10 shown in Figure 1 is particularly advantageous since after the game is finished, the pieces can be removed from their openings in the support member and lid 11 raised to allow the pieces to be placed in the interior of the container. After the pieces are in place the lid can again be snapped shut, and the playing surface or board thus provides a box for storing the playing pieces and carrying them from place to place.

A modified form of cubical playing surface or support member 40 is shown in Figure 4. Member 40 is a transparent solid cubical member formed of a clear plastic such as Lucite, polystyrene, or the like. This cubical member has six faces, eight corners, and twelve edges corresponding to those of cubical member 10 of Figure 1. Moreover, cubical member 40 is provided with openings 41 formed in each of eight corners, facial openings 42 formed in the center of each of the six faces of the cube, and edge openings 43 formed in the center of each of the edges of the cube. These openings correspond respectively to openings 22, 23, and 24 of the embodiment shown in Figure 1. Additionally, cubical member 40 has a "common" game piece 44 molded in the geometric center of the cube. This "common" piece is preferably multi-colored or colored a distinguishing color in the same manner as piece 31 to indicate to each of the players that it is a common marker. Each of the openings 41, 42, and 43 is of sufficient depth to receive and frictionally support a marker such as marker 34 illustrated in Figures 2 and 3. It is to be understood that cubical support, or board member 40 and markers 34 are used in playing the game in exactly the same manner as described above.

From the foregoing disclosure of the general principles of the invention and the above description of two preferred embodiments, those skilled in the art will readily comprehend various modifications to which the invention is susceptible. Thus, for example, lid 11 and base 12 of hinged cubical member 10 may be hinged together by means of lugs and sockets molded integral with the lid and base section rather than by means of pin 13. Furthermore, if

desired, the hinged connection between the lid and base section of the cubical member can be dispensed with and a plurality of cooperating lugs can be formed on the lid and base for frictionally holding the two in assembled relationship. Also, the shape of playing pieces 34 can be altered so long as the pieces are dimensioned and configured to be frictionally supported within openings formed in the cubical support member and to extend outwardly from the surface of the member.

Having described my invention, I claim:

1. A game apparatus for playing a three dimensional game with pieces, said apparatus including a support member comprising a transparent plastic cubical member having six faces, eight corners and twelve edges, said cubical member having apertures formed at each of the corners thereof, in the center of each of the faces thereof and in the center of each of the edges thereof, a common piece disposed in the center of the cube, and a plurality of playing pieces adapted to be inserted in said apertures, said pieces being dimensioned and configured so that when a piece is inserted in an aperture it is frictionally held in place and extends outwardly from the face of the cube, said playing pieces having indicia dividing said pieces into two groups, said common piece having indicia distinguishing it from said playing pieces.

2. A game apparatus for playing a three dimensional game with pieces, said apparatus including a support member comprising a transparent hollow cubical member, said cubical member having a lid section and a base section, means hingedly connecting the base section and lid section adjacent to one wall thereof, means for frictionally securing said lid section and said base section together at a point remote from said hinge, a common piece, means for supporting said common piece in the center of said cube, said cubical member having six faces, eight corners and twelve edges, and having an aperture formed in each of the corners thereof in the center of each of the faces thereof, and in the center of each of the edges thereof, and a plurality of playing pieces adapted to be inserted in said apertures, said playing pieces being dimensioned and configured so that when a piece is inserted in an aperture it is frictionally held in place and extends outwardly

from the face of the cube, said playing pieces having indicia dividing said playing pieces into two groups, said common piece having indicia distinguishing said common piece from said playing pieces.

3. A game apparatus for playing a three dimensional game with pieces, said apparatus including a support member comprising a hollow transparent plastic cube, said cube having a lid section and a base section, means operatively associated with said lid section and said base section for releasably holding said lid section and base section in assembled relationship, said cubical member having six faces, eight corners and twelve edges, and having an aperture formed in each of the corners thereof in the center of each of the faces thereof and in the center of each of the edges thereof, a common piece, means for supporting said common piece in the center of said cube, and a plurality of playing pieces adapted to be inserted in said apertures, said playing pieces being dimensioned and configured so that when a piece is inserted in one of said apertures it is frictionally held in place and extends outwardly from the face of the cube, said playing pieces having indicia for dividing said pieces into two groups, said common piece having indicia distinguishing said common piece from said playing pieces.

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