# United States Patent

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[54] **THREE DIMENSIONAL GAME**
**6 Claims, 3 Drawing Figs.**


[52] **U.S. Cl.** ..... **273/130**
[51] **Int. Cl.** ..... **A63f 3/00**
[50] **Field of Search** ..... 273/130, 131, 134, 135, 136, 137, 153



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**ABSTRACT:** A base means has a plurality of spaced support members extending upwardly therefrom. Each of these support members includes a plurality of shoulders extending therearound. A plurality of tubular playing pieces are provided which are adapted to fit within one another and to fit over the support members to be supported on said shoulders at different vertical levels so that a plurality of playing pieces of one player may be aligned in lines extending horizontally, vertically or diagonally through the playing pieces when supported in playing position relative to said support members.

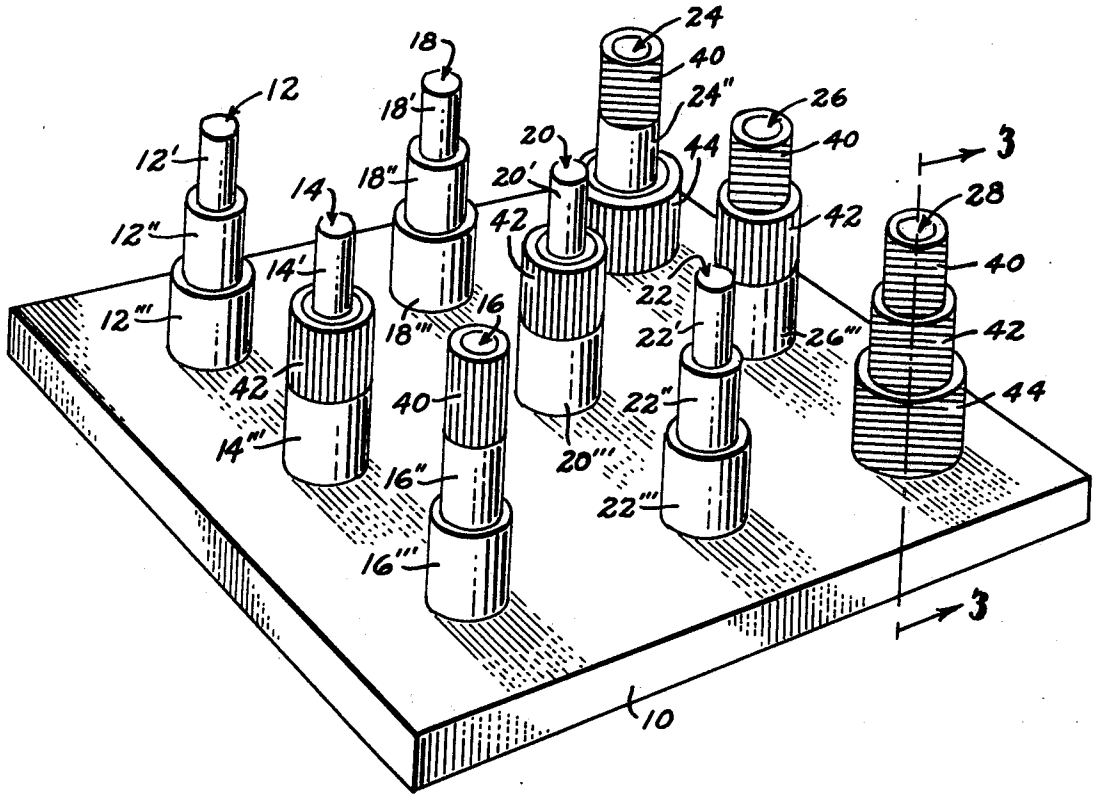



Fig. 1.

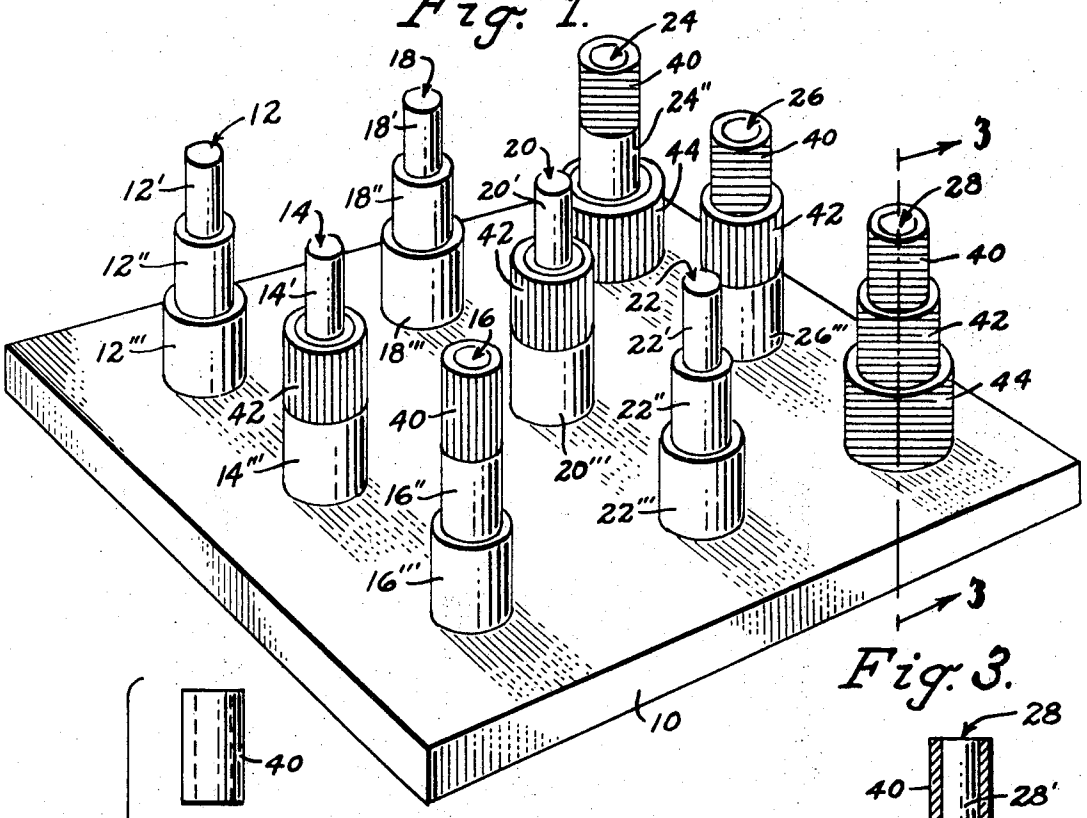



Fig. 3.

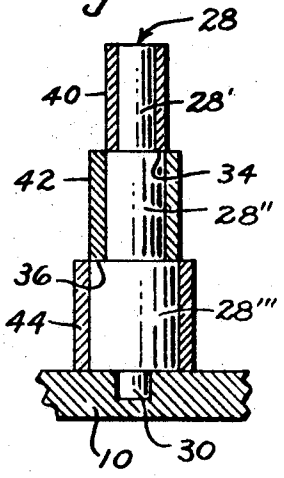
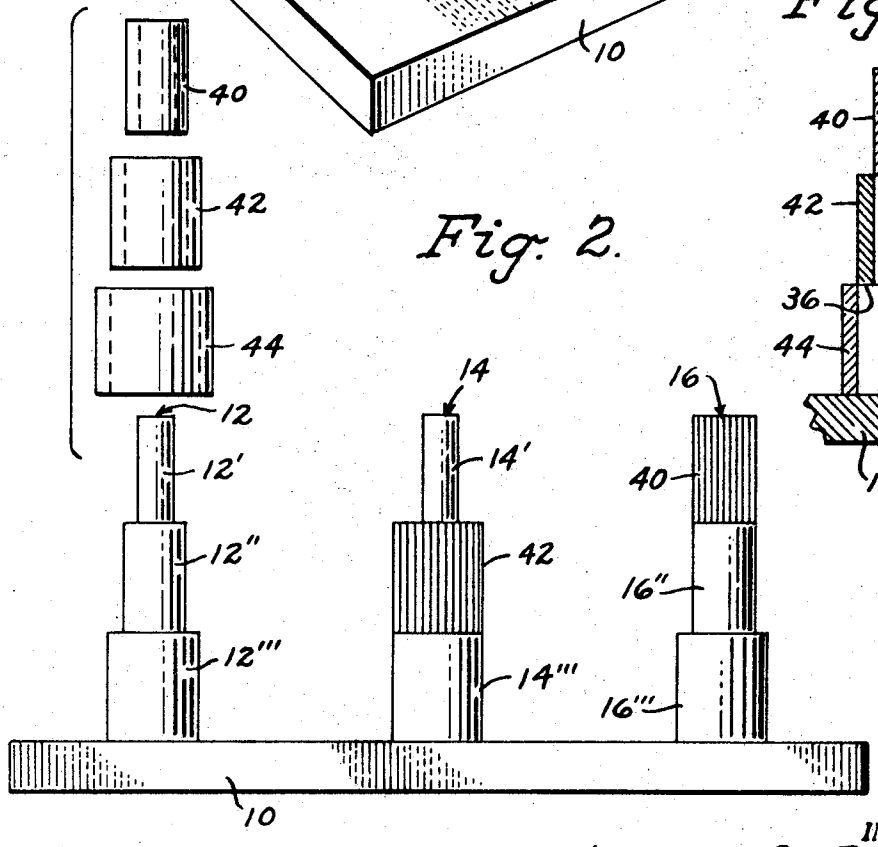



Fig. 2.

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# THREE DIMENSIONAL GAME

## BACKGROUND OF THE INVENTION

The present invention relates to a three-dimensional game which is an outgrowth of the well-known game of "tic-tac-toe" wherein the objective is for one player to obtain alignment of three marks in a row. This game has for many years been played on a sheet of paper so that the alignment could be made only in a single plane.

In recent years, this game has been expanded into a three-dimensional arrangement wherein playing pieces are employed, and a particular player's playing pieces can be aligned either in a single plane or in a plurality of planes thereby substantially increasing the complexity of the game and the number of ways in which points can be scored.

A number of three-dimensional "tic-tac-toe" games have been proposed, and in a typical arrangement a transparent plastic support is provided wherein playing pieces can be supported in any one of 27 playing positions defined by a plurality of piece receiving portions arranged in a 3 x 3 x 3 cube array.

Complex frameworks of various construction have also been employed in the prior art for supporting playing pieces in operative position. These frameworks are not only inordinantly expensive in many instances, but a player has difficulty in seeing the position of all of the playing pieces, and furthermore the support means for the playing pieces are not readily accessible in the central portion of the structure so that it requires considerable manipulation to place a playing piece in playing position.

## SUMMARY OF THE INVENTION

The present invention provides an arrangement which is of greatly simplified construction and which provides very good visibility of the playing pieces since a minimum of obstruction is presented and the playing area can be readily viewed from a position thereabove.

A plurality of support members are disposed in fixed spaced relationship to one another, and playing pieces of different size are adapted to be dropped onto these support members and supported at different vertical levels thereon whereby 27 operative positions for the playing pieces may be readily provided using nine support members. It should of course be understood that a different number of support members and/or a different number of vertical support positions on the support members may be employed if so desired. For example, instead of using nine support members adapted to support playing pieces at three different vertical levels, 16 support members could be employed each of which is adapted to support playing pieces at four different vertical levels. It is evident that the concept of the present invention can be extended as desired to include any number of support members and any number of vertical levels at which it is desired to support the playing pieces.

The playing pieces of the present invention can be readily dropped into playing position from above any one of the support members regardless of the vertical level on which it is desired to support a playing piece, and accordingly placing of the playing pieces in playing position is greatly facilitated.

## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a top perspective view illustrating the game of the present invention with playing pieces disposed in operative position on certain ones of the support members of the apparatus;

FIG. 2 is an end view of the structure shown in FIG. 1 illustrating a plurality of playing pieces adjacent thereto; and

FIG. 3 is a sectional view taken substantially along line 3–3 of FIG. 1 looking in the direction of the arrows.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing wherein like reference characters designate corresponding parts throughout the several views, a base member is indicated generally by reference numeral **10** and may be formed of any suitable material such as wood, plastic and the like. This base member is illustrated as generally rectangular in plan configuration and is adapted to rest upon any suitable supporting surface.



A plurality of support members **12, 14, 16, 18, 20, 22, 24, 26** and **28** are provided, the particular embodiment illustrated employing nine support members, although the invention is not limited to any particular number thereof. Each of these support members is of identical construction, and the support members are arranged so as to extend vertically upwardly from the base member in spaced parallel symmetric relationship with respect to one another, the support members being disposed in three equally spaced rows as is clearly evident from FIG. 1.

Referring to FIG. 3, the construction of support member **28** is clearly illustrated. This support member includes an uppermost portion **28'** of cylindrical configuration which joins with an intermediate cylindrical portion **28''** of a greater diameter than that of portion **28'**. Portion **28''** in turn joins with a lowermost generally cylindrical portion **28'''** of a diameter greater than that of the intermediate portion **28''**.

An integral member **30** extends downwardly from the undersurface of the support member and is tightly fitted within a complementary hole formed in the base member **10** whereby the support member is mounted in the operative position illustrated. If desired, a suitable adhesive substance may be employed for securing the support member in operative position.

A first annular shoulder **34** is defined about the periphery of the support member **28** between the cylindrical portions **28'** and **28''** thereof. A second annular shoulder **36** is defined about the periphery of the support member **28** between the cylindrical portions **28''** and **28'''** thereof.

Each of the support members is of substantially identical construction. Accordingly, the three portions of different diameter of each of the respective support members have been given the same reference numerals as the respective support member primed, double primed and triple primed in the same manner as the reference numerals have been applied to the support member **28**.

A plurality of playing pieces are provided, there being a first plurality of playing pieces **40** of one size, a second plurality of playing pieces **42** of another size, and a third plurality of playing pieces **44** of still another size.

As seen most clearly in FIG. 3, each of the playing pieces **40, 42** and **44** is of hollow cylindrical configuration. The playing piece **40** has a bore formed therethrough which is adapted to slidably receive the uppermost portion **28'** of support member **28**, whereby playing piece **40** is adapted to be supported on the annular shoulder **34** with the outer periphery of playing piece **40** being substantially flush with the outer periphery of the intermediate portion **28''** of the support member.

Playing piece **42** has a bore formed therethrough which is adapted to slidably receive the intermediate portion **28''** of the support member **28**, the playing piece **42** being supported by the annular shoulder **36** of the support member with the outer periphery of playing piece **42** substantially flush with the outer periphery of the portion **28'''** of the support member.

The bore formed through playing piece **42** has an inner diameter slightly larger than the outer diameter of playing piece **40** so that playing piece **42** is adapted to be dropped into the operative position illustrated in FIG. 3 when playing piece **40** is supported in the playing position illustrated.

Playing piece **44** has a bore formed therethrough which is adapted to slidably receive the lowermost portion **28'''** of the support member **28**, this playing piece being supported on the upwardly facing surface of the base member **10**.

The inner diameter of the bore formed through playing piece **44** is slightly greater than the outer diameter of playing piece **42** so that playing piece **44** is adapted to be dropped into the operative position shown in FIG. 3 when playing piece **42** is supported in the playing position illustrated.

The playing pieces as well as the support members may be formed of any suitable substance such as wood, plastic and the like.

In FIG. 1, a plurality of playing pieces are illustrated in operative playing position on certain ones of the support members in order to illustrate the manner in which points may be scored by players playing the game.

A first player's playing pieces indicated as being blue in color for purposes of identification include three playing pieces **40** supported about the uppermost portions of support members **24**, **26** and **28**. These three playing pieces **40** which are colored blue are accordingly aligned in an upper horizontal plane, and a point is scored for such alignment.

Additionally, playing pieces **42** and **44** which are also colored blue are supported about the intermediate and lowermost portions of support member **28**. A point is also scored for this alignment since the three playing pieces supported by support member **28** are aligned in the same vertical plane.

A second player's playing pieces are indicated as being red in color, and three of such playing pieces **42** are disposed about the intermediate portions of support members **14**, **20** and **26**. A point is scored in this instance for the latter player since the three playing pieces **42** are aligned in an intermediate horizontal plane below the upper horizontal plane. It should be understood that a player's pieces can also be aligned in a lower horizontal plane wherein the pieces would be disposed about the lowermost portions of the associated support members.

Additionally, a playing piece **44** indicated as being red in color is supported about the lowermost portion of support member **24**, and a playing piece **40** which is also colored red is supported about the uppermost part of support member **16**. A point is also scored for this arrangement since the playing piece **40** on support member **16**, the playing piece **42** on support member **20** and the playing piece **44** on support member **24** are aligned with one another in a diagonal plane.

It is evident that playing pieces may be aligned so as to score points in a plurality of horizontal, vertical and diagonal planes, and that alignment of three of a player's pieces in a row may be blocked by a playing piece of the other player in the usual manner associated with "tic-tac-toe" games and the like.

Due to the interrelationship of the inner and outer diameters of the various playing pieces as well as the sizes of the various portions of the support members, a larger playing piece is adapted to be moved into playing position relative to a particular support means below a smaller playing piece when such smaller playing piece is supported at a certain vertical level on any particular support means.

The playing pieces are tubular in construction and as shown are of generally circular cross-sectional configuration. It should be understood that the playing pieces may be of other cross-sectional configurations such as triangular, square or the like as long as the members are adapted to fit within one another for the purpose hereinbefore described.

The playing pieces of either player may be identified in any suitable manner as by providing playing pieces of different color or texture as desired.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, and since the scope of the invention is defined by the appended claims, all changes that fall within the metes and bounds of the claims or that form their functional as well as conjointly cooperative equivalents are therefore intended to be embraced by those claims.

I claim:

**1.** A three-dimensional game apparatus comprising a plurality of spaced support means, means on the support means for supporting playing pieces at different vertical levels, a plurality of playing pieces each of a different inside and outside diameter and each of which is adapted to fit over a portion of said support means, said playing pieces being substantially complementary in shape to one another, the inside diameter of a larger playing piece being greater than the outside diameter of a smaller playing piece to permit free vertical movement of the playing pieces with respect to one another when associated with the same support means, whereby a larger playing piece is adapted to be moved into playing position relative to a particular support means below a smaller playing piece when said smaller playing piece is supported at a certain vertical level on said particular support means.

**2.** Apparatus as defined in claim **1** wherein said support means defines spaced support portions at different parts thereof constituting said means for supporting playing pieces at different vertical levels.

**3.** Apparatus as defined in claim **2** wherein said spaced support portions comprise shoulders extending peripherally about said support means.

**4.** Apparatus as defined in claim **1** wherein each of said support means defines a plurality of generally cylindrical portions of different diameter, said support means each including annular shoulder means connecting adjacent cylindrical portions of the support means and constituting said piece supporting means.

**5.** Apparatus as defined in claim **1** wherein said playing pieces include means for distinguishing the playing pieces of a plurality of players.

**6.** Apparatus as defined in claim **1** including a base means for maintaining said support means in predetermined spaced parallel relationship with one another, said support means being disposed in rows and extending vertically upwardly from said base means, each of said support means defining shoulder means extending peripherally therearound and constituting said means for supporting playing pieces at different vertical levels.