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Harper et al.

[11] **3,767,201**

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[54] **MULTI-LEVEL GAME BOARD STRUCTURE FOR THREE-DIMENSIONAL CHESS AND CHECKER GAMES**

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[21] Appl. No.: **194,351**

[52] **U.S. Cl.** ..... **273/131 AC**

[51] **Int. Cl.** **A63f 3/02**

[58] **Field of Search** 273/131, 136

[56] **References Cited**

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[57] **ABSTRACT**

A multi-level game board structure for three-dimensional chess and checker games. The board structure has an odd number of game boards mounted one over the other in vertically spaced relation and each defining playing squares arranged in rank and file rows containing equal numbers of squares. Each game board above and below the center board has two less rank and file rows than the adjacent board in the direction of the center board. The boards are relatively oriented so that playing squares in any vertical line through the board structure alternate in color. The chess and checker game pieces are the same as used in conventional chess and checker games except that the chess pieces include additional pawns and the checker pieces include additional checkers. The chess and checker games are played according to essentially conventional chess and checker game rules except that the game pieces may be moved in both horizontal and vertical directions.

6 Claims, 11 Drawing Figures

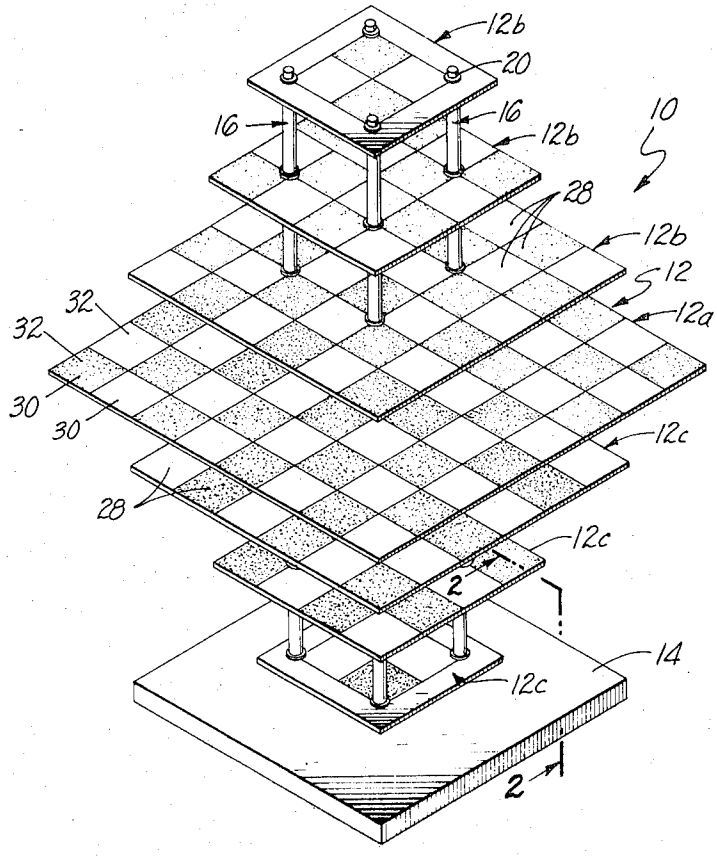

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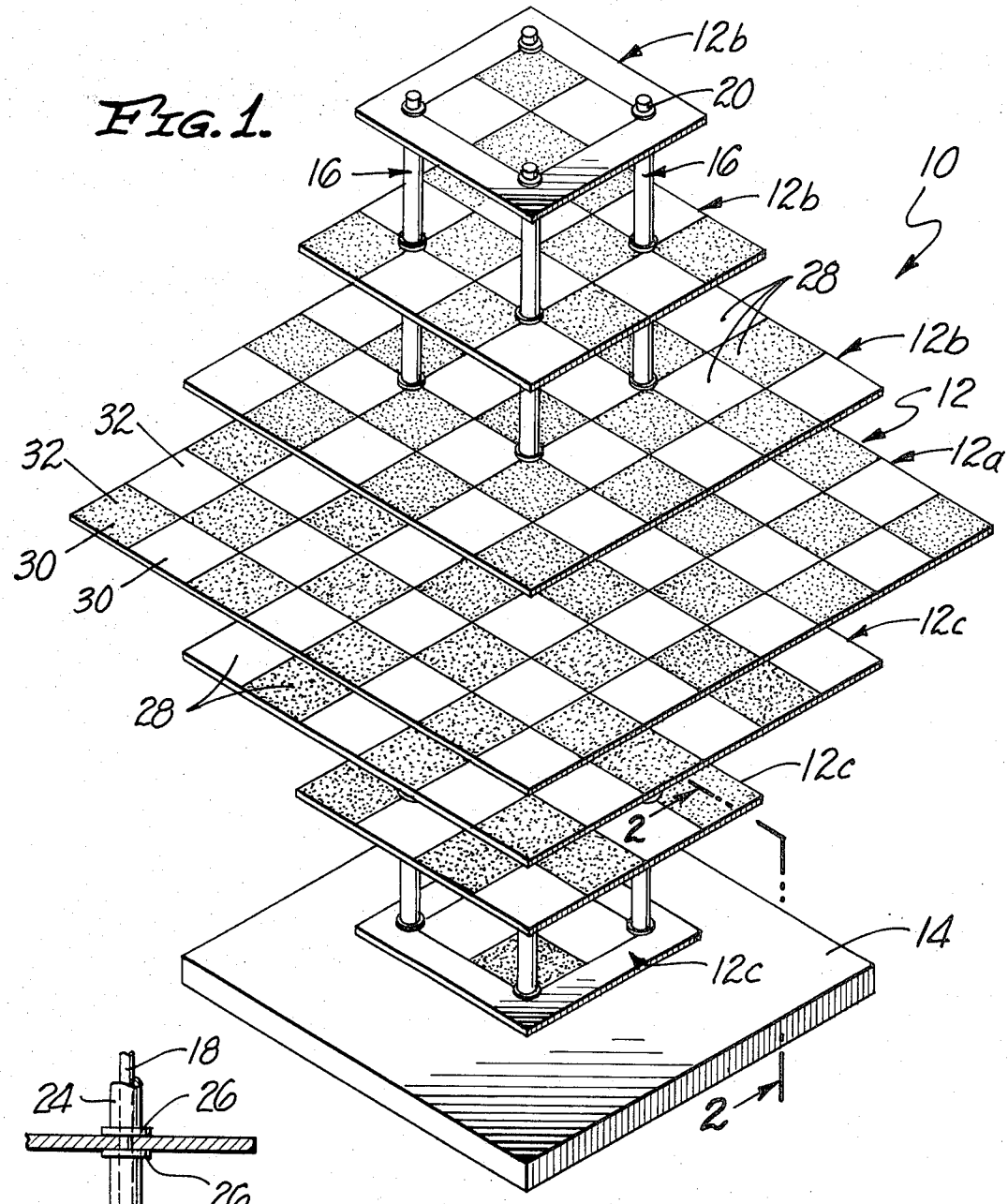
FIG. 1.



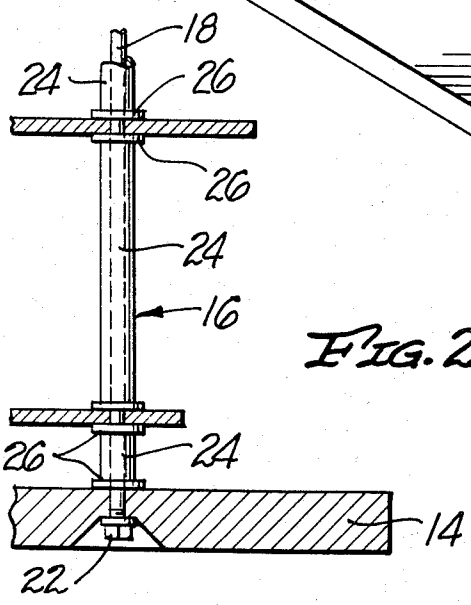


FIG. 2.

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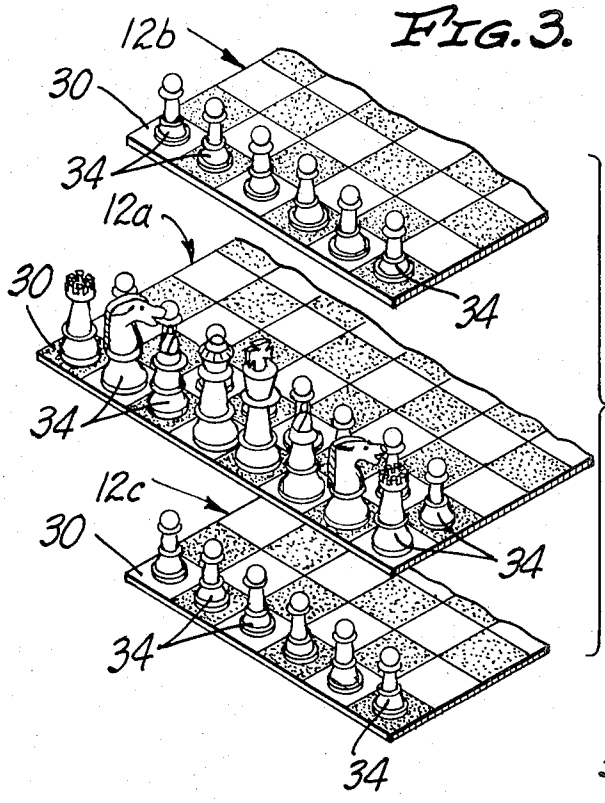
FIG. 3.



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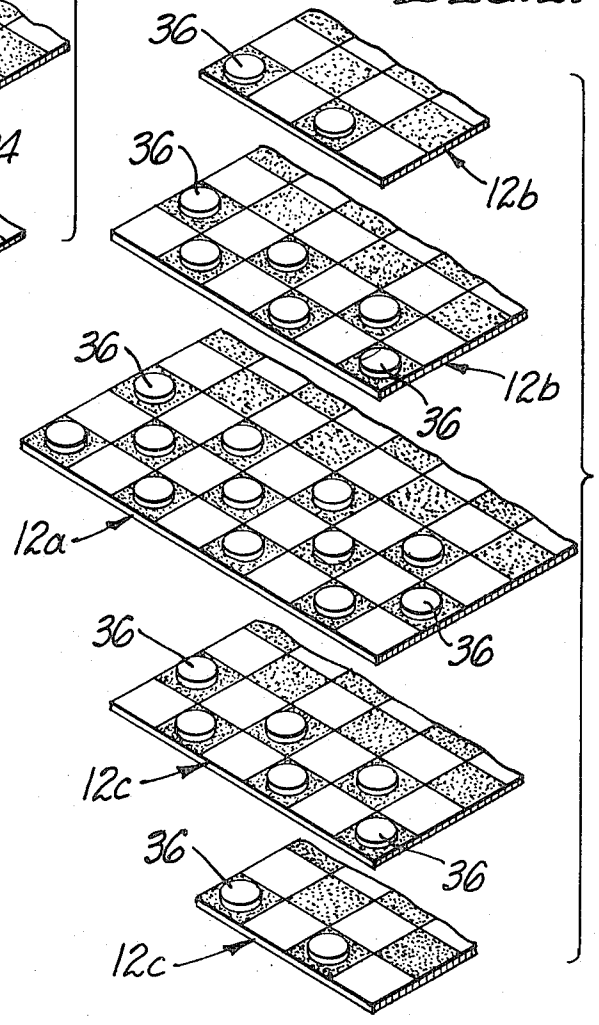

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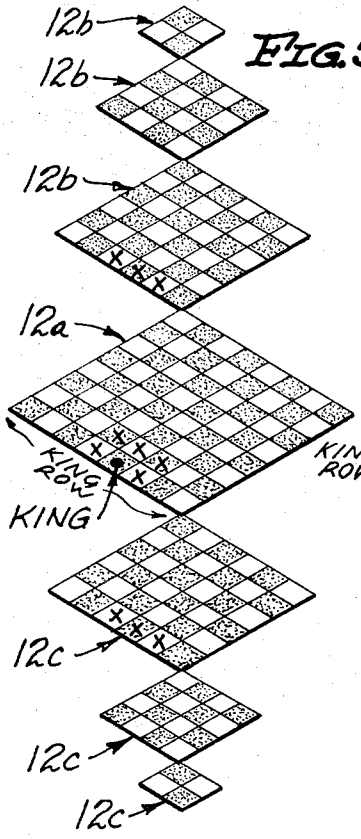
FIG. 5.



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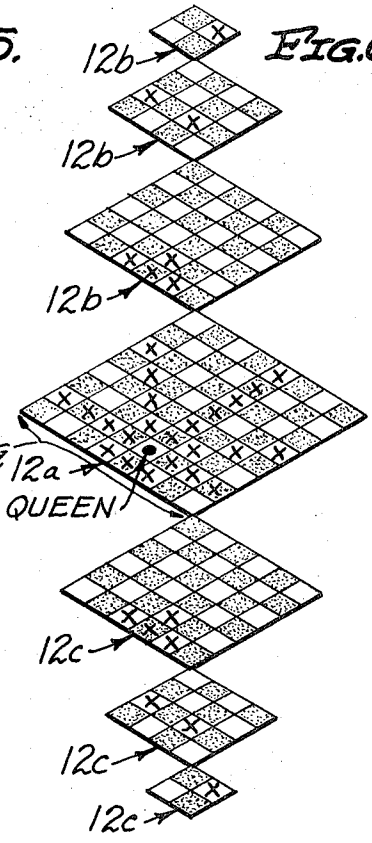

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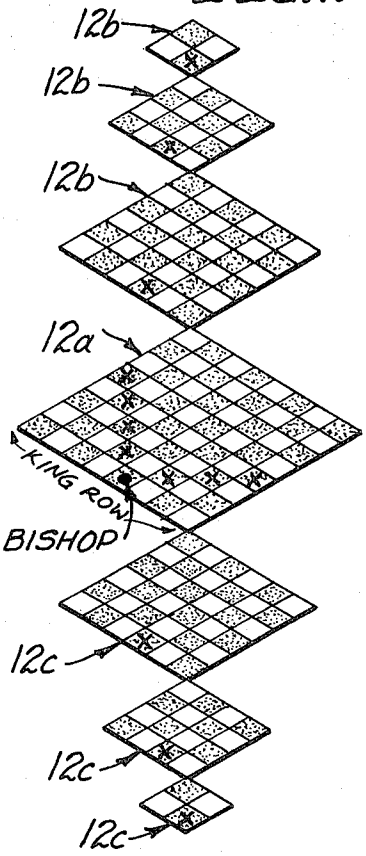

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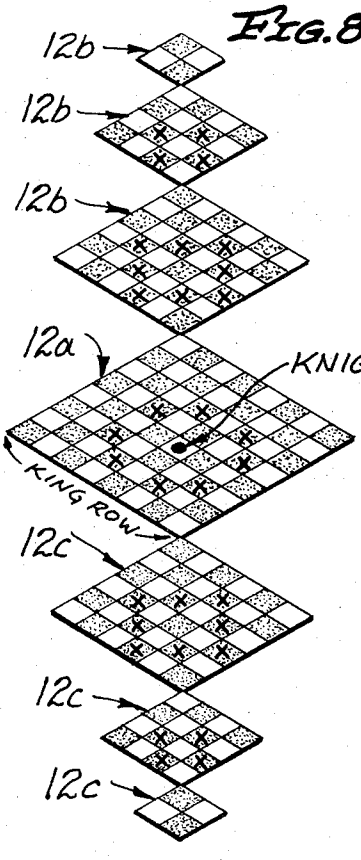

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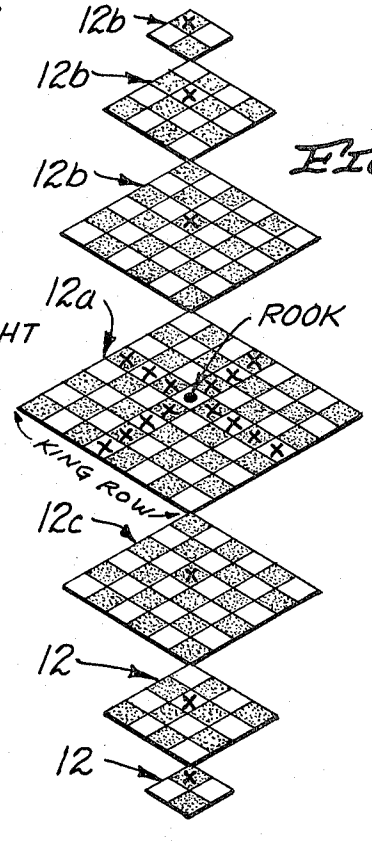

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FIG. 11.

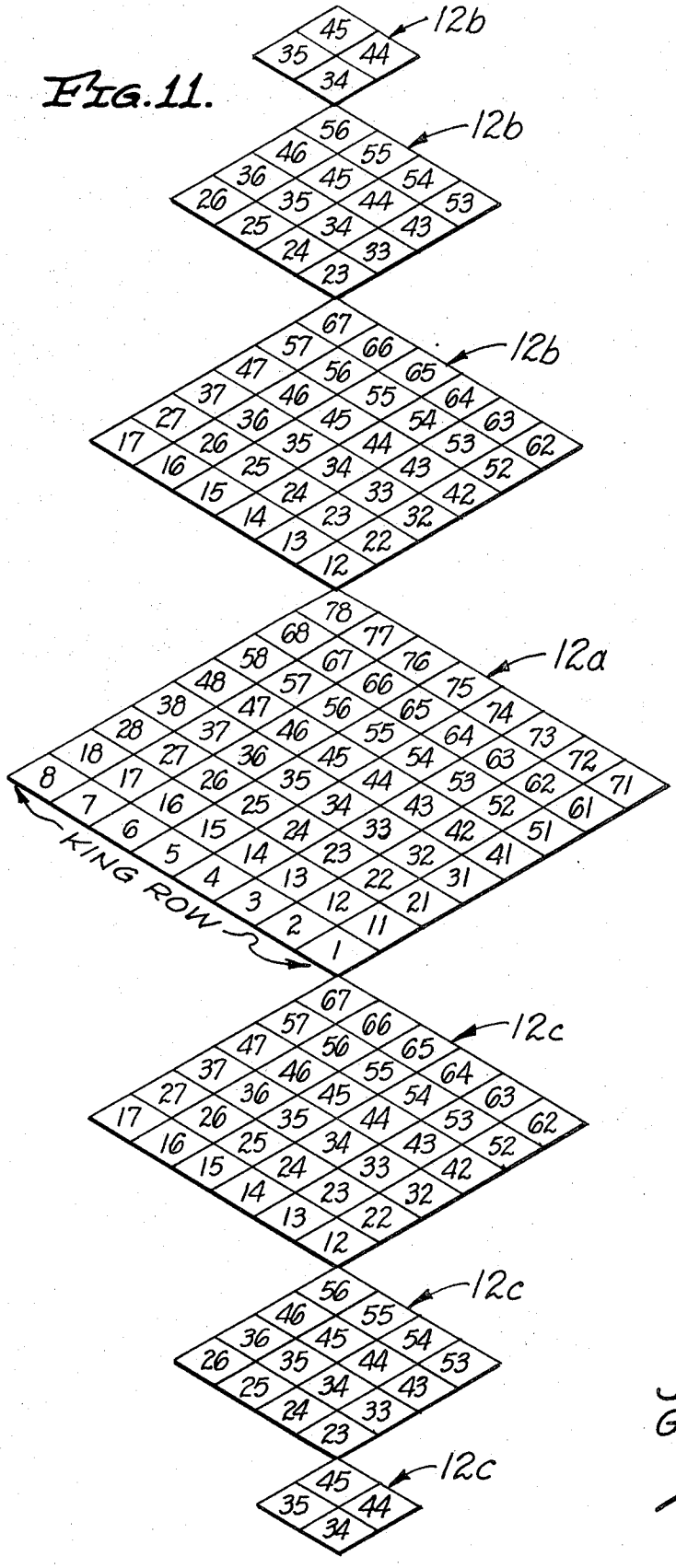
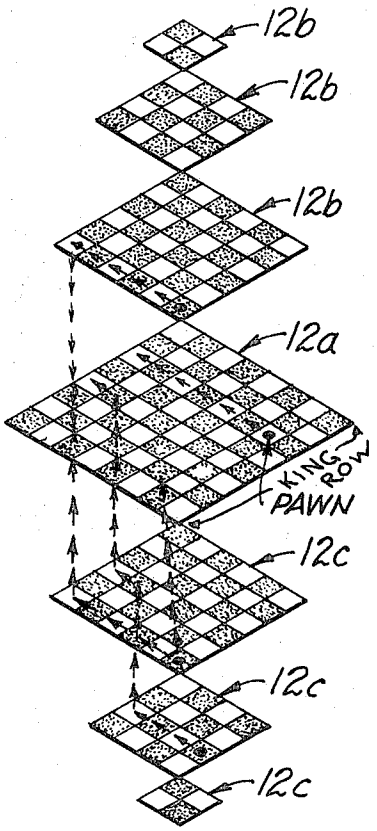


FIG. 10.



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MULTI-LEVEL GAME BOARD STRUCTURE FOR THREE-DIMENSIONAL CHESS AND CHECKER GAMES

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to game apparatus and more particularly to a novel multi-level game board structure and game pieces for three-dimensional chess and checker games.

2. Discussion of the Prior Art

As is well known to those versed in this particular art, chess and checkers are commonly played on a single flat board such that the only possible moves occur horizontally across the board.

Three-dimensional chess and checker game apparatus have been devised. Three-dimensional game apparatus, for example, are disclosed in U.S. Pat. Nos. 1,877,154; 2,652,255 and 3,399,895. Such game apparatus is characterized by a multi-level game board structure having a number of game boards mounted one over the other in vertically spaced relation. Each board has a playing area with playing squares arranged in mutually perpendicular rank and file rows, each eight in number. The rank and file rows of the several boards are vertically aligned such that the game pieces may be moved horizontally across each board as well as vertically from one board to the next.

SUMMARY OF THE INVENTION

The present invention provides improved three-dimensional chess and checker game apparatus. This game apparatus includes a multiple level game board structure and game pieces similar to but different in number from conventional chess and checker game pieces.

The game board structure has an odd number of game boards, typically seven, mounted one over the other at vertically spaced levels. The game board at the center of the structure is hereafter referred to as the center board and its level as the center level. The game boards above and below the center board are referred to as upper and lower boards, respectively.

Each game board has a central playing area with playing squares arranged in rank and file rows. The squares alternate in color,or are otherwise distinguished, in the usual way. The center board is essentially a conventional chess or checkerboard containing 64 playing squares arranged in eight rank and eight file rows. According to a feature of the invention, each upper and lower game board has two less rank and file rows than the adjacent board in the direction of the center level of the game board structure to restrict the limits of play both horizontally and vertically to those of the normal chess game.

Thus, a normal two-dimensional board permits a maximum of seven moves in any direction across the board, from one side to the other, including diagonal directions. The game board of this invention incorporates the same limitations by making the board at each successive level above and below the center level two rank and file rows smaller than the preceding level. For example, moving diagonally from the center board up or down one board, then across that board, and finally diagonally back to and across the center would involve seven moves because the boards above and below are two squares smaller, which are compensated by the diagonal moves up or down. Similarly, moving up two levels, across that board, and back down, still involves only seven moves. Diagonal moves going up from the center board, diagonally, across and back down diagonally, and conversely going down, across and back up diagonally, still involve the seven moves which exist in the normal two-dimensional board.

The chess and checker game pieces of the present game apparatus are similar to but are larger in number than conventional chess and checker game piece sets in order to make the game more interesting and to provide for a good offensive game and a better defensive game. Thus, the chess game pieces include more pawns, typically twenty pawns, than do conventional chess game pieces. The checker game pieces include more checkers, also typically twenty-eight checkers, than conventional checkers.

Chess and checkers are played with the present game apparatus according to generally conventional rules except that each game piece has possible vertical as well as horizontal moves. Also, at the start of a game, game pieces are placed on more than one game board.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the present multi-level game board structure;

FIG. 2 is an enlarged section taken on line 2—2 in FIG. 1;

FIGS. 3 and 4 illustrate the starting positions of chess and checker game pieces, respectively;

FIGS. 5–9 illustrate the possible moves of each chess game piece.

FIG. 10 illustrates the possible moves of a chess pawn, and

FIG. 11 illustrates a numbering system for identifying the individual playing squares of the game board structure.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring first to FIGS. 1 and 2, the multilevel game board structure 10 illustrated has an odd number of game boards 12, in this instance seven boards, arranged one over the other at vertically spaced levels. The boards are preferably transparent and are mounted on a supporting base 14 by means of four posts 16. Each post has an inner tie rod 18 with an upper enlarged head 20 and a lower threaded end for receiving a nut 22. Tie rods 18 pass through holes in the game boards 12 and mount sleeves 24 and washers 26 between the boards for retaining the latter in spaced relation. The tie rod nuts 22 are tightened to firmly clamp the game boards together to form a unitary game board structure.

Game board 12*a* is the center game board which is located at the center level of the game board structure. Game boards 12*b* are the upper game boards and game boards 12*c* the lower game boards.

Each game board 12 has playing squares 28 arranged in rank and file rows 30 and 32, respectively. These squares alternate in color in the usual way or are otherwise distinguished. The game boards are located on a common axis which passes through the centers of the boards in such a way that the rank and file rows 30, 32 of each upper and lower board 12*b*, 12*c* are vertically aligned with rank and file rows of the adjacent board in the direction of the center level of the game board

structure. As shown, respective adjacent boards have corner squares of different colors, the corresponding corner squares alternating in the upward or downward direction, because of the effective 90° rotated positions of alternate boards.

The center game board **12***a* is essentially a conventional chess or checker board having playing squares **28** arranged in eight rank and eight file rows **30, 32.** Each upper and lower game board **12***b*, *12c* has two less rank and file rows than the adjacent board in the direction of the center level of the game board structure. Thus, commencing with the game boards **12***b*, **12***c* adjacent the center board **12***a*, the successive boards have **6, 4,** and **2** rank and file rows, respectively. These boards thus contain **36, 16** and **4** playing squares, respectively.

FIGS. **3** and **4** illustrate chess and checker game pieces **34, 36** in their starting positions on the game board structure **10.** These game pieces are similar to but differ in number from conventional chess and checker game pieces. Thus, the chess pieces include twenty pawns and the checker pieces 28 checkers. As shown in FIG. **3,** the chess pieces **34** are placed in normal starting positions on the center board **12***a* and the remaining pawns are placed on outer rank rows **30** of the adjacent upper and lower boards **12***b*, **12***c*. As shown in FIG. **4,** the checkers **36** are placed in the usual starting positions on the center board and the remaining checkers are placed on the outer two rank rows of the first two upper and lower boards and the first rank rows of the adjacent upper and lower boards **12***b*, **12***c*, thus leaving the two center ranks of each level vacant.

Chess and checker games are played with the present game apparatus according to essentially the same rules as conventional two-dimensional chess and checker games except that with the present apparatus each game piece has possible vertical as well as horizontal moves. That is to say, each game piece may move according to the usual rules on any game board and according to essentially the same rules from one board to the next. In this regard attention is directed to FIGS. **5–10** which illustrate the possible moves of each chess piece from a given starting position (shown as a black dot) on the center playing board **12***a*. The same moves would apply, of course, from any starting position on any game board. Moves from one board to another are made along inclined direction lines, from a given square on one board to an adjacent square on the next board. In this regard, it is significant to note the vertical arrows in FIG. **10,** are in actuality, inclined.

FIG. **11** illustrates a numbering system which may be used to identify the squares of the several game boards. In this case, corresponding squares of all boards are identified by the same numbers and the boards by different numbers. For example, the boards may be numbered from **1** to **7,** starting with the top board, so that square **67** on board **5** would be identified as **5-67.**

The vertical chess moves may be summarized as follows:

Rook:

The rook gains the vertical moves when additional board squares are in line above or below.

Knight:

The knight must always move to the opposite color square even when moving from board to board with the same kind of move as he has in normal chess.

King:

The king moves vertically in all normal directions, but only one square at a time.

Pawn:

The pawn moves straight forward only on all board levels except when making a capture. The pawn moves from level to level up or down on a diagonal capture only. When the pawn reaches the last rank on any level but the center board, it may return toward the center board by a capture or on a vertical move toward the center board. If the pawn is two or more boards away from the center board, than he must reach the last rank of each board before he can make the vertical move toward the center board.

Bishop:

Due to the arrangement of the boards, the bishop moves on its own color with only diagonal moves.

Queen:

The queen moves vertically in all normal directions to the limit of the board.

The checker pieces are similarly capable of vertical and horizontal moves according to the usual checker rules. Only the outer ranks on the center board are king rows.

It will be observed that the same number of moves are involved in moving any game piece from one board to another as in moving the same piece across a board. The progressive reduction in the number of rank and file rows toward the ends of the board structure restricts the limits of play both horizontally and vertically to those of a normal chess game.

What is claimed as new in support of Letters Patent is:

1. A multi-level game board structure for three-dimensional chess and checker games, comprising:

an odd number of game boards mounted one over the other with the boards located at vertically spaced levels and including a center board at the center level and upper and lower boards at levels above and below said center board,

each board having a playing area defining playing squares arranged in mutually perpendicular rank and file rows containing equal numbers of squares,

said center board having eight rank and eight file rows and each upper and lower board having two less rank and file rows than the adjacent board in the direction of said center level,

said boards being disposed on a common normally generally vertical axis which passes through the centers of the playing areas of the several boards, such that the rank and file rows of each upper and lower board are vertically aligned with rank and file rows of the adjacent board in the direction of said center level, and said boards being relatively oriented so that the playing squares on any vertical line thorugh the structure alternate in color.

2. A game board structure according to claim **1** wherein:

there are at least two upper game boards and two lower game boards.

3. A game board structure according to claim **1** wherein:

there are three upper game boards and three lower game boards.

4. A game board structure according to claim **1** wherein:

said game boards are transparent.

5. A game board structure according to claim 1 including:

two sets of chess game pieces each comprising game pieces representing a king, a queen, two bishops, two knights, two rooks, and 20 pawns.

6. A game board structure according to claim 1 including:

two sets of checker game pieces each comprising 28 checkers.

* * * * *