# United States Patent

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[54] **GAME WITH TOWER AND CRANE**
**7 Claims, 6 Drawing Figs.**


[52] **U.S. Cl.** ..... 273/1 (R), 46/40
[51] **Int. Cl.** ..... **A63f 9/00**
[50] **Field of Search** ..... 273/1, 1 M; 46/40



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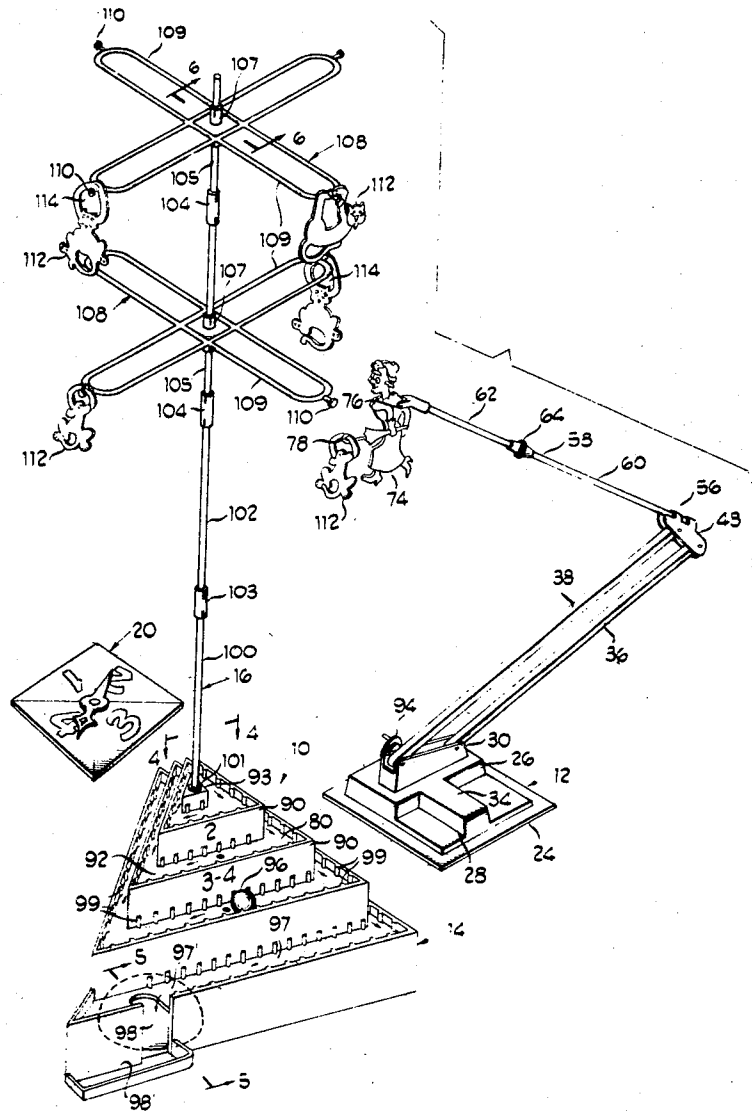
**ABSTRACT:** Game apparatus including a tower structure having a plurality of arms projecting outwardly at various levels, playing pieces adapted to be removably supported on the tower structure, and a player manipulatable device including pivotally mounted arms adapted to be moved vertically for engaging and for transferring the playing pieces between the tower structure and a home level. The playing pieces are disposed at various levels and novel timing apparatus is utilized to define given time periods for accomplishing the game objective.

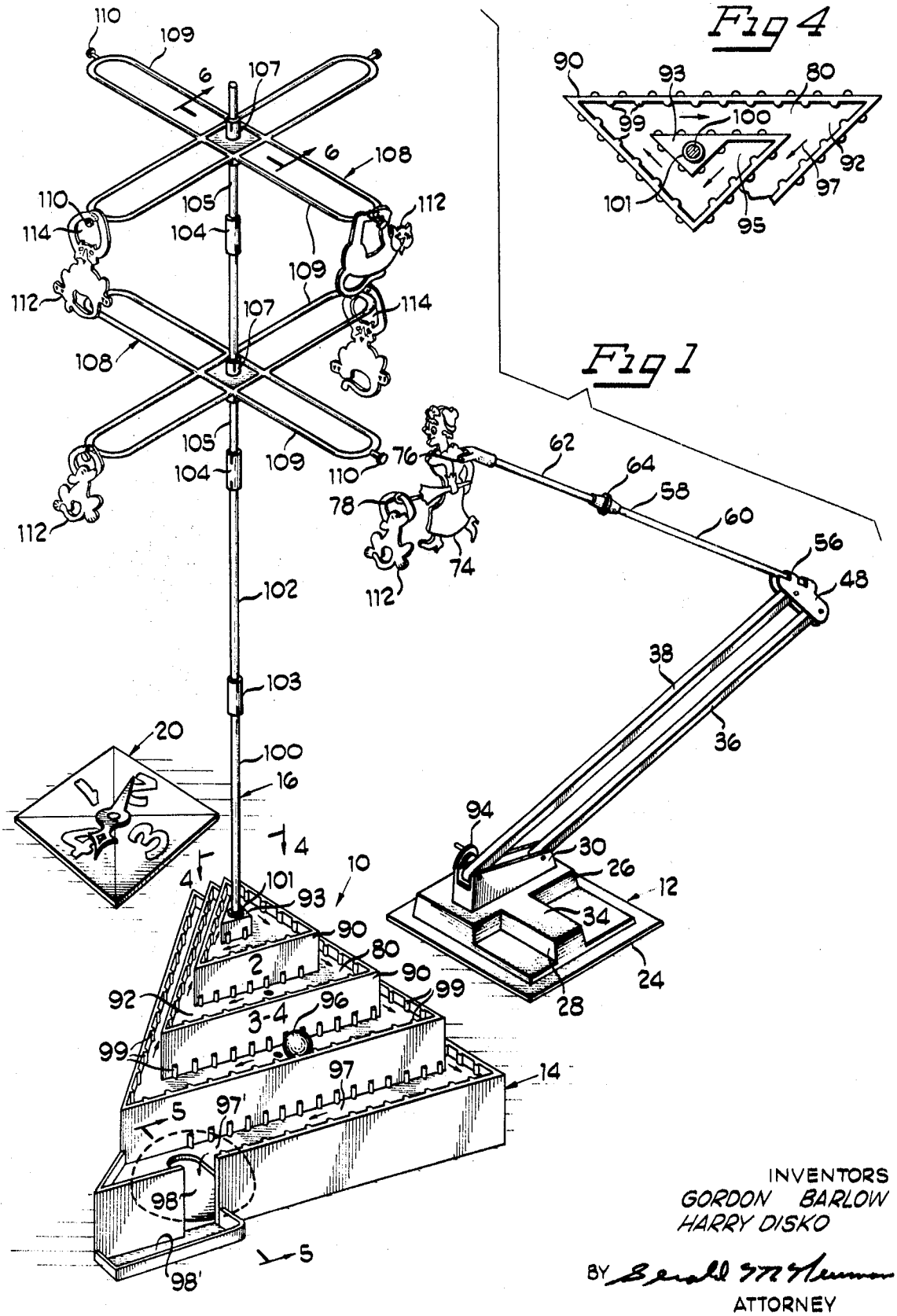



Fig 4




Fig 1

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Fig 2

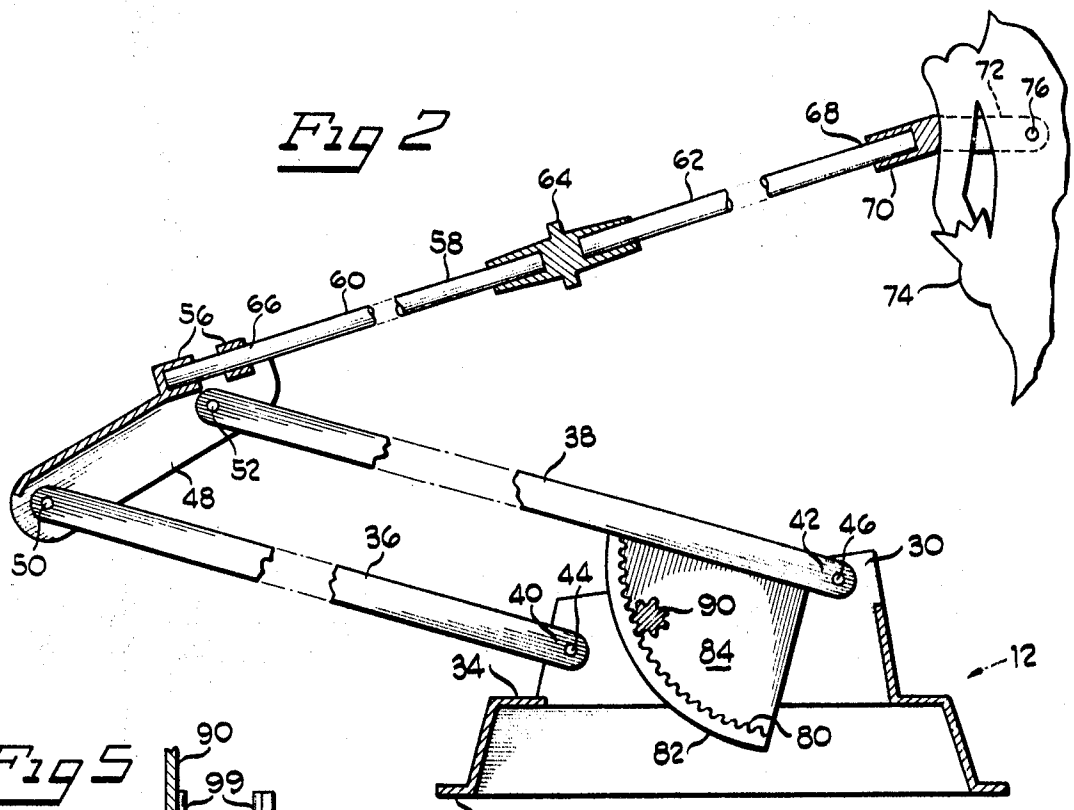



Fig 5

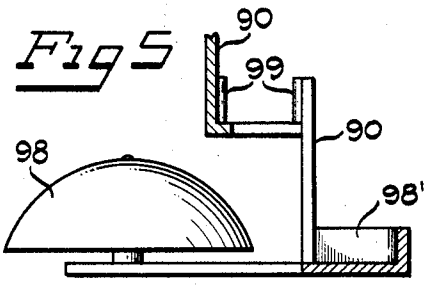



Fig 3

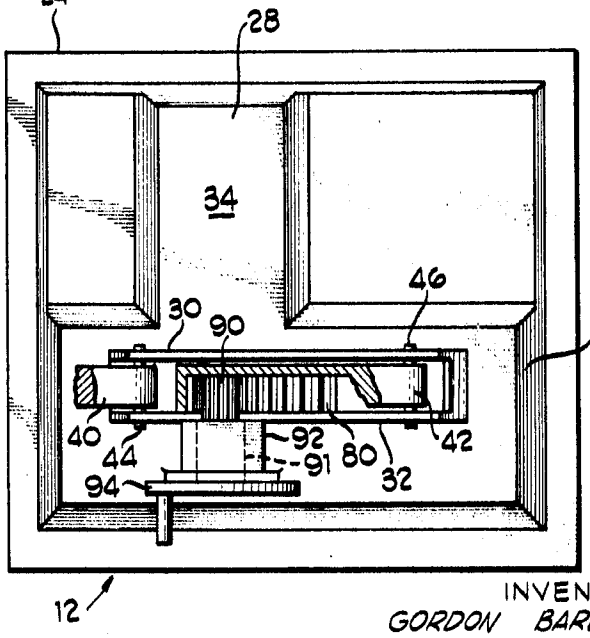
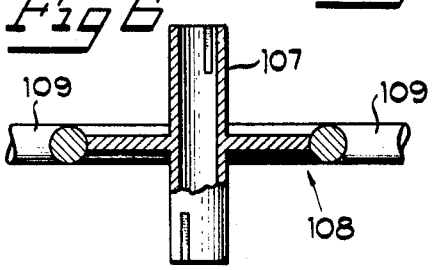



Fig 6

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# GAME WITH TOWER AND CRANE

This invention relates in general to games of skill wherein an element of chance is also present. In particular, this invention relates to a game wherein the players are required to manipulate a device for transferring playing pieces from one location to another in an allotted time period.

Few games in the prior art utilize devices which are manipulated by a player to cause an action or movement. Those games wherein an action or movement takes place are not typically played against the clock, that is, a player does not usually have an allotted time period in which to complete his playing turn.

This invention provides game apparatus where actual physical movement of apparatus is caused by the players who desirably effect a given series of movements in an allotted time period to accomplish an objective. In particular, this invention provides game apparatus including a tower structure carrying a plurality of movable playing pieces, and player manipulatable extendable means for "rescuing" the playing pieces by retrieving them from the tower structure and transferring them to a home level in an allotted period of time.

Accordingly, it is a primary object of this invention to provide game apparatus wherein movable playing pieces are transferred from a tower structure to a home position.

Another object of this invention is to provide game apparatus wherein movable playing pieces are transferred from atop a tower structure to a home level by player manipulation of extendable simulated rescue means adapted to engage the movable pieces and lower them to the home level within an allotted time period.

A further object of this invention is to provide player manipulatable means for use in game apparatus for moving movable playing pieces.

It is also an object of this invention to provide a timing device for use with game apparatus to determine a given time period for controlling a game play turn.

Additional objects of this invention will become apparent to those versed in the art upon an understanding of the following detailed description of the game apparatus and play sequence taken in conjunction with the accompanying drawings, in which a preferred embodiment of the game apparatus is shown, and wherein:

FIG. 1 is a three dimensional perspective view of the game apparatus of the invention including a tower structure 10 and player manipulatable means 12;

FIG. 2 is an enlarged partial cross-sectional elevational view of the player-manipulated means 12 shown in FIG. 1;

FIG. 3 is a fragmentary plan view of the player-manipulated means of FIG. 2;

FIG. 4 is a fragmentary enlarged top plan view of a pedestal for supporting the tower, showing the starting pocket for the timing means and taken along line 4–4 of FIG. 1;

FIG. 5 is a partial cross-sectional elevational view of a portion of the timing device showing means for audibly signaling completion of the allotted time period and taken along line 5–5 of FIG. 1; and

FIG. 6 is a cross-sectional elevational view of the tower construction partially broken away for clarity and taken along line 6–6 of FIG. 1. Referring now to the drawings and in particular to FIG. 1, the game apparatus generally comprises a tower structure 10 including a pedestal 14 supporting a tower 16, player-manipulated means 12 having an extendable member, and chance means 20 in the form of a player-operated spinner having a pointer and a plurality of numerical indicia thereabout.

As best seen in FIGS. 1, 2 and 3, player-manipulatable means 12 comprises a flat rectangular base 24 having an elevated platform 26 thereon. The platform has a narrow section 28 which may be manually grasped by a player for physically sliding the base along a supporting surface in order to position it relative to the tower structure as will be further explained hereafter.



A frame having vertical sidewalls 30 and 32 is permanently affixed to or molded integral with an upper surface 34 of the platform. A pair of relatively long arms 36 and 38 are provided and one end 40 and 42 respectively of each is pivotably secured between the vertical sidewalls by pivot pins 44 and 46, respectively. The distance between pins 44 and 46 defines a fixed distance between the arm ends 40 and 42, and the horizontal attitude of the pins limits the arms to movement in the vertical plane. It should be noted that arm 38 is preferably slightly longer than arm 36.

The opposite ends of arms 36 and 38 are each pivotably connected to a link 48 by additional pivot pins 50 and 52, respectively. Link 48 has a generally U-shaped cross section and the arm ends are connected to the interior of the U cross section for greater stability.

Arms 36 and 38, frame sidewalls 30 and 32, and link 48 cooperate to form a parallelogramlike shape. It is not a true parallelogram since the opposite sides thereof are not parallel due to the unequal length of arms 36 and 38 and the unequal distance between the adjacent, pivotably connected arm ends which causes a rapid angular movement of link 48 as the attitude of the arms is varied.

A sleeve 56 is formed integral with link 48 for receiving an extension member 58 which preferably is assembled from two dowel rods 60 and 62 coupled together, end to end, by a suitable double female coupling 64. It is a simple matter to assemble the extension arm by coupling the dowel rods together, end to end, and inserting an end 66 of the extension member into sleeve 56. The free end 68 of the assembled extension member, which may be referred to as its distal end, permanently carries a sleeve 70 having a bifurcated end 72. A fanciful caricature 74 is pivotably supported at end 72 by a staked pin 76. By providing the center of gravity of the caricature below its support point and by loosely pivotably supporting the caricature, it will always maintain a vertical attitude regardless of the angular attitude of the extension member.

The caricature is preferably provided with a hook 78 or the like for picking up and supporting a playing piece during play of the game. Alternatively, the caricature may have a magnetic portion and the playing pieces may be magnetically permeable so as to be capable of being picked up by the caricature.

Elevation of the parallel arms and resultant movement of the caricature if provided by sector gear 80 carried at the arcuate peripheral edge 82 of a quandrant-shaped plate 84 having a straight edge thereof fixed to an underside of arm 38. The sector gear and plate are substantially housed within the confines of vertical sidewalls 30 and 32. A small drive gear 90 is secured to a shaft 91 supported for rotation on a boss 92. Shaft 91 is manually operated by a crank 94 and the drive gear is aligned for meshing engagement with the sector gear between the sidewalls.

As the crank and drive gear are rotated clockwise as seen in FIG. 2, the sector gear and arm 38 are also driven clockwise, pivoting about pin 46 thereby elevating the end of the arm. Arm 36 generally follows the movement of arm 38 due to their connection by link 48. Due to the difference in arm lengths between arm 36 and 38, the arms usually are not parallel. Also, link 48 is generally not parallel with a line drawn between pins 44 and 46. The longer length of leg 38 causes the angle which link 48 makes with the horizontal to change very rapidly as the arms are elevated, thereby causing the fanciful caricature to rise and fall responsive to operation of the crank.

Turning now to FIGS. 1, 4 and 5, as noted above, the tower structure with which the rescue means is used comprises a pedestal 14 and a tower 16. The pedestal is preferably pyramidal shaped and is sufficiently broad to provide a firm base with a lower center of gravity for stable support of the tower. In addition to supporting the tower, the pedestal surface is constructed to function as an element of a variable timing device for defining the specific time period in which a player must complete the sequence of elevating member 58, removing one playing piece at a time from the height of the

tower structure by engaging it with the hook, and lowering the playing piece to a home level.

The pedestal has a winding path **80** on the exterior surface which is defined by a continuous winding wall **90** and a planar bottom **92**. The path winds spirallike continuously from an apex **93** of the pyramid, to its bottom surface. At the apex, wall **90** forms a series of tight turns (FIG. **4**) defining a starting pocket **95** wherein a ball **96** may be placed at the beginning of a player's turn. Upon release of the ball, it will traverse the path in the direction of arrows **97** under the influence of gravity until it reaches the lower end **97'** thereof whereupon the ball will strike a bell **98'** (FIG. **6**) and subsequently drop into a storage trough **98**. The audible sound produced by the ball striking the bell indicates that the player's allotted time period has passed and that his turn is over.

In order to vary the time periods of play, the ball may be started at other locations along the winding path such as locations at the dots below the numbers **2** and **3–4** on the facing portions of wall **90**, best seen in FIG. **1**. Understandably, it will take less time for the ball to traverse the shorter length of the winding path when started from points **2** or **3–4**, than when it is started from the pocket.

In accordance with the invention, a series of staggered, postlike protrusions **99** are molded into both sides of sidewall **90**. These protrusions obstruct the normal rolling course of the ball and cause it to zigzag along the path thereby defining a longer time period for a given path length and emitting an intermittent sound.

Tower **16** includes an upstanding lower pole member **100** which is received an supported in a blind aperture **101** provided at the apex of the pedestal. A second pole **102** is telescopically coupled to the top of pole **100** by a sleeve-coupling member **103**. At the upper end of pole **102** a second sleeve **104** is provided to couple a short pole section **105** thereto which in turn supports several structures **108** which simulate a television antenna. Structure **108** includes an integral sleeve **107** (FIG. **7**) and a plurality of horizontal arms **109**, four such arms being shown in FIG. **1**. The arms have horizontally projecting studs **110** at the ends thereof for carrying the playing pieces. Additional short pole sections **105** and antenna simulating structures **108** may be stacked one above the other to achieve a tower preferably having four stacked levels.

Playing pieces **112** having apertures **114** are hung on projections **110** and are preferably appropriately illustrated and shaped to simulate cats or dogs in a state of distress and in need of rescue from atop the tower. The playing pieces are amusingly rescued by the fanciful caricature at the free end of the extension arm which includes the hook **78** at the end of an umbrella which may be inserted into aperture **114** for securing the playing piece, removing it from its stud **110** and lowering it to the home level.

In the play of the game, the pedestal and tower are assembled and one playing piece is hung from each of the studs. The players then spin the spinner **20** to determine a playing order. The first player operates the spinner twice. On the first spin, the numerical indicia, **1** through **4**, on which the pointer lands indicates from which level the player must rescue playing piece. The second spin indicates the location of the timing path at which the ball is started and thus regulates the time which the player has to complete his objective. The player then manipulates the base **24** to any position he desires and the time is started by placing the ball in pocket **95** if the second spin indicates a **1**, or at the dots below numbers **2** or **3–4** should the spin indicate these latter indicia, and releasing it. The player must now elevate the arms to the indicated level, hook any playing piece at that level, and lower it to the home level. The player may manually slide the base about the playing surface while trying to rescue a playing piece, but the base must remain on the surface. The entire sequence must be completed in the allotted time as determined by traversion of the ball along the winding path.

While other specific rules may be envisioned by those familiar wit the game art, in the preferred playing sequence a player may return to any level if time permits. If the previous player has not retrieved the playing piece completely, the next player may continue retrieving the identical piece and then go on to retrieve an additional playing piece on the level indicated by his spin. If there are no playing pieces on the level indicated by the spinner, the player must spin again. The player with the most playing pieces retrieved after all have been removed from the tower is the winner.

What has been described is a game apparatus utilizing player-manipulated means for transferring playing pieces between two or more levels within an allotted time as defined by integral timing means.

It is obvious that upon study by those skilled in the art the disclosed invention may be altered or modified without departing from its inventive concept.

What we claim is:

**1**. Game apparatus comprising a plurality of playing pieces, a vertically extending structure including laterally projecting arms disposed at a plurality of different levels above the base of said structure, said playing pieces being removably supported at various positions on said arms, player manipulatable means comprising a base portion selectively positionable relative to said vertically extending structure and including a pair of connected, pivotally mounted arms extending from said base portion, an extension member secured to said arms and having its free end engageable with any of said playing pieces, and player-controlled means on said base for selectively moving said arms to move said free end of said extension member between the levels of said playing pieces and the supporting surface for said game apparatus, and timing means for determining the time period allotted a player for transferring playing pieces from said laterally projecting arms to the supporting surface.

**2**. The game apparatus as set forth in claim **1** wherein said arms are articulately connected by a link having an angle of elevation which varies relative to the arm movement; said extension member being secured to said link for elevation of its free end responsive to movement of said arms; said player-controlled means including a gear sector fixed to one arm and a manually rotatable drive gear cooperating with said sector gear for pivoting said arms, and means at said free end for carrying the playing pieces during movement thereof between the supporting surface and any one of said projecting arms.

**3**. The game apparatus as set forth in claim **2** wherein the free end of said extension member carries a permanent magnet and wherein said playing pieces are magnetically permeable and attracted by said permanent magnet for engagement and subsequent retention thereof upon positioning said base and moving said arms.

**4**. The game apparatus as set forth in claim **2** wherein said means at the free end comprise a hook and wherein each of said playing pieces define an aperture engageable by said hook upon positioning said base relative to said vertically extending structure and moving said pivotally mounted arms.

**5**. The game apparatus as set forth in claim **4** wherein said timing means comprise a downwardly sloping winding path having a given length, and means traversing the length of said path under the influence of gravity at a given time, thereby defining the allotted time period of play.

**6**. The game apparatus as set forth in claim **5** wherein said winding path is formed on the surface of said pedestal, and audible means at the end of said path for indicating termination of said allotted time period.

**7**. The game apparatus as set forth in claim **6** wherein said arms and said extension member simulate an elevatable rescue device for use in rescuing said movable playing pieces simulating animate objects, from said vertically extending structure.