United States Patent

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[54] **MARBLE PICKUP GAME WITH FLEXIBLE MANIPULATOR**
11 Claims, 7 Drawing Figs.

[52] **U.S. Cl.** ..... **273/1(R),** D54/12, 30/322, 273/130(R), 294/19(A)
[51] **Int. Cl.** **A63f 9/00**
[50] **Field of Search** ..... 273/1, 1 (M), 130 (A), (Inquired), 162 (E), 119, 118; 294/19 (1)

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ABSTRACT: A dish-shaped concave base is provided with a plurality of open-ended upright tubular goal seats adjacent the outer periphery thereof. Several marbles are placed within the base and a manipulator is employed to carry a single marble from the central portion of the base to a seated position on the open end of one of the tubular goal seats. The manipulator is an elongated member having a handle at one end and at the other end, a pickup member with a cut out portion suitable for sliding under the major spherical diameter of a marble resting on the base and lifting the marble. Intermediate its ends, the manipulator is formed of a plurality of segments joined by hinges, the pivotal axes of which are all parallel. The hinges permit movement of the segments with respect to one another while maintaining all of the moving segments within the same plane transverse to the pivotal hinge axes and ideally horizontal when the game is being played. A player lifts one of the marbles from the base by the pickup member in the front of the manipulator and places the marble over and onto one of the tubular goal seats to score a point in the game.

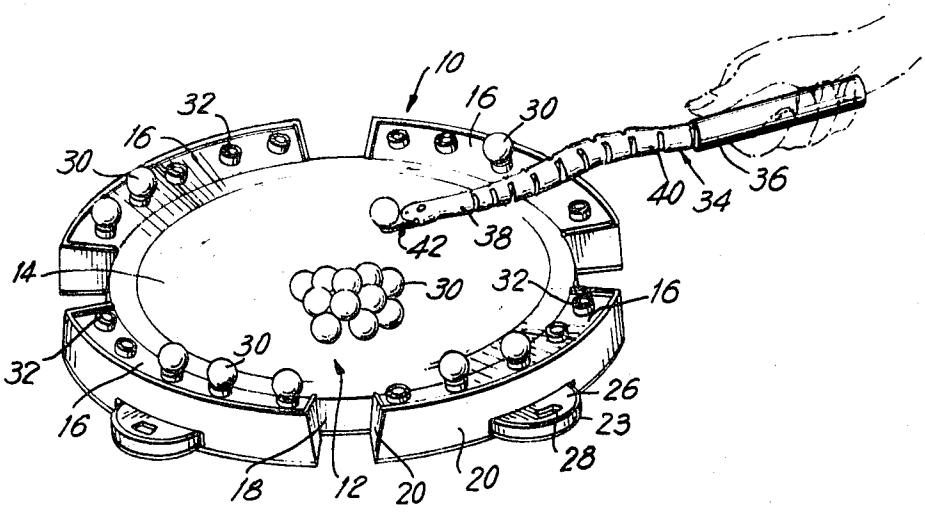


FIG. 1

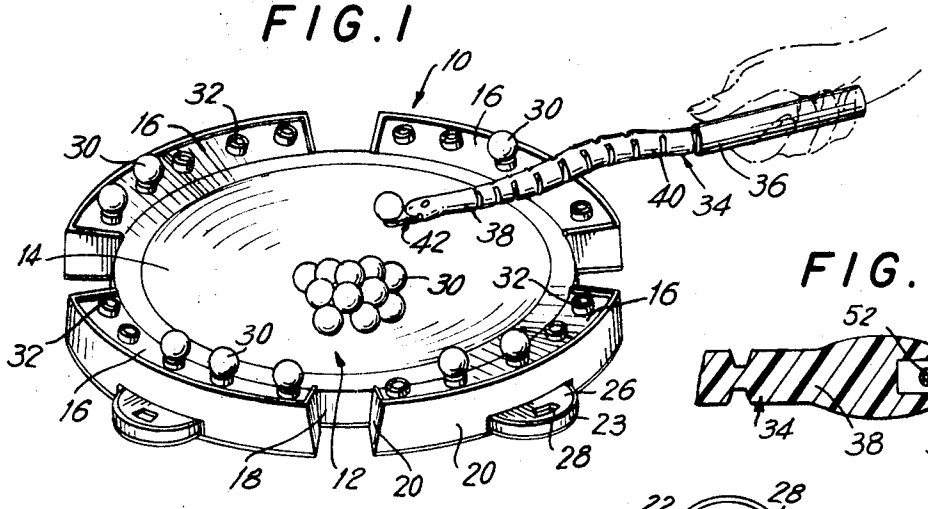


FIG. 7

FIG. 5

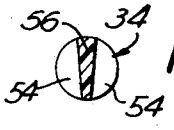
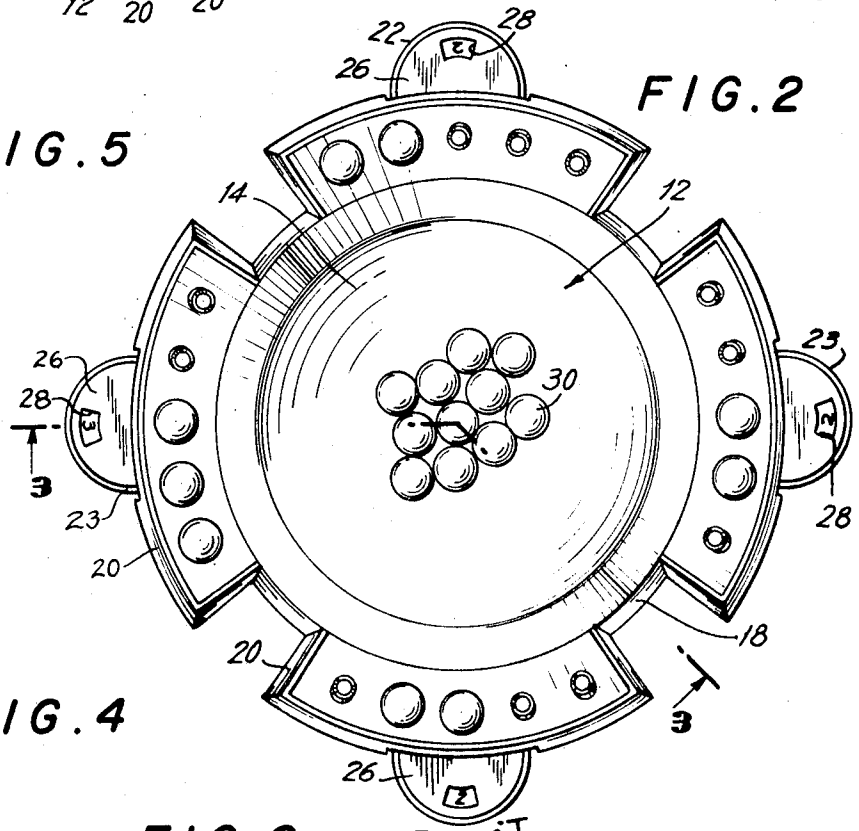


FIG. 2



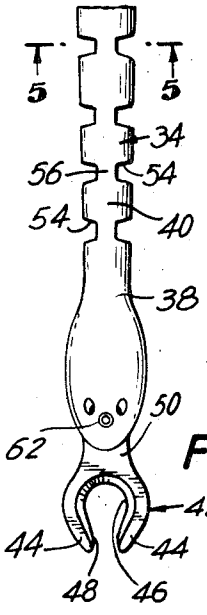


FIG. 4

FIG. 6

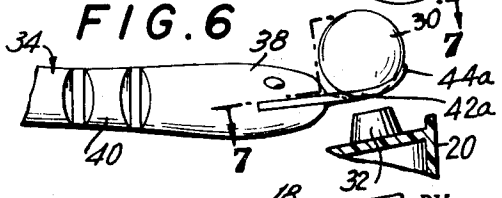
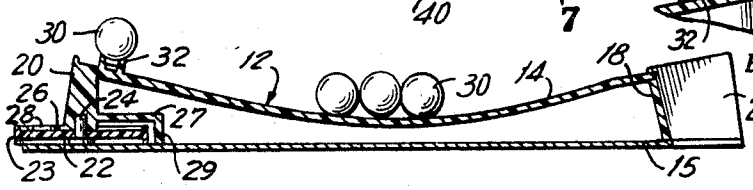


FIG. 3



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MARBLE PICKUP GAME WITH FLEXIBLE MANIPULATOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

Dexterity games.

2. Description of the Prior Art

Dexterity games wherein a player is required to skillfully manipulate a playing element have been previously known. In these prior games the playing element manipulators employed were usually simple rigid rods. A playing element would be lifted above or slid over the playing surface by means of these rigid rods. Lifting of the playing elements in dexterity games have been known to be accomplished with the use of two rigid manipulators, with one held in each hand. One end of each manipulator would be shaped to accommodate the playing element whereby the playing element could be lifted above the playing surface.

One drawback encountered with the use of the manipulators of such prior games was the fact that once the playing piece was grasped or contacted by the manipulator, the movement of the playing piece and pickup end of the manipulator was controlled directly through the rigid manipulator body. Thus, the previous game manipulators lacked a simple construction which was capable of exaggerated and unexpected movements resulting from slight movements of the player's hand.

Further drawbacks in these prior dexterity games was the fact that they lacked a unitary simple base wherein both the playing element goals and a starting position were located on the same surface which forms a playing element return to automatically reposition a dropped playing element at a starting area. Thus, in some of the prior devices a dropped element would have to be manually repositioned at the starting point before commencement of play could be resumed.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a pickup dexterity game of the character described which is so constructed that it is not subject to any of the foregoing disadvantages.

More specifically, it is an object of the invention to provide a marble pickup dexterity game of the character described which is simple and rugged in construction yet can be fabricated by mass production methods at an appreciably lower cost than prior devices designed to serve the same function.

It is another object of the present invention to provide a marble pickup dexterity game of the character described wherein a playing element manipulator will experience sudden and unexpected movements resulting from slight vacillations in the player's hand.

It is still a further object of the present invention to provide a marble pickup dexterity game of the character described wherein a manipulator lifts marble playing elements from a central dish-shaped base to goal seats positioned adjacent the periphery of the base.

It is a still further object of the present invention to provide a marble pickup dexterity game wherein marble playing elements are lifted by a flexible manipulator from a central starting area of a dish-shaped base to a goal seat positioned adjacent the periphery of the base whereby a playing element improperly manipulated will fall back to said base and travel down its sloping sides towards the center thereof.

It is a further object of the invention to provide a flexible dexterity manipulator constructed of a plurality of segments each integrally hinged to adjacent segments permitting hinged movement of said segments whereby when said manipulator is held in a horizontal position by gripping one end, with the opposite end free, said segments will automatically pivot as the axes of said hinges deviates from vertical orientation.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings in which are shown various possible embodiments of the invention:

FIG. **1** is a perspective view of a marble pickup dexterity game constructed in accordance with and embodying the invention;

FIG. **2** is a top view of the dish-shaped game base;

FIG. **3** is a cross-sectional view of the dish-shaped game base taken substantially along the line **3–3** of FIG. **2**;

FIG. **4** is a fragmentary top view of the playing element manipulator;

FIG. **5** is a cross-sectional view of the manipulator body taken substantially along the line **5–5** of FIG. **4** and showing the pivotal hinge which joins successive segments;

FIG. **6** is a fragmentary view of the playing element manipulator with an alternate embodiment of the pickup member as it is placing a playing element on a goal seat; and

FIG. **7** is a fragmentary cross-sectional view of the playing element manipulator head holding a spherical playing element, and showing, in dotted lines, the goal seat of the game base beneath the playing element, the same being taken substantially along the line **7–7** of FIG. **6**.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The game includes a dished base with a plurality of tubular seats concentrically positioned adjacent the periphery thereof. The tubular seats serve as goals upon which spherical playing elements are placed after being lifted from the center of the base and carried to the seats by a manipulator.

Each player is assigned a series of goal seats and a manipulator for lifting the playing elements from the base. The manipulators are elongate elements having at one end a handle to be grasped and at the other end, a pickup member. Intermediate and joining opposite ends of the manipulator are several segments each pivotally interconnected to the next for rotation about a series of parallel axes. These axes are preferably vertical when the manipulator is being used. If the manipulator is inadvertently twisted or moved so that these axes are inclined with respect to the vertical, the segments will uncontrollably rotate about their axes producing unexpected and exaggerated movements at the pickup member so that it is difficult to place a playing element on a desired goal and also is difficult to retain a playing element on the pickup member off which it will readily roll.

To play the game, the participants in turn lift playing elements from the center of the base with their manipulator by sliding the pickup member between the base and an equatorial plane of the playing element and then raising the manipulator. Once lifted, the playing element is carried with the aid of the manipulator to a position directly over one of the tubular seats whereupon the player lowers the manipulator and playing element until the playing element rests on the open end of the tubular seat. The pickup member is laterally slotted so that it may be slid transversely away from the tubular seat without lifting the seat playing element.

Referring now in detail to the drawings, the reference numeral **10** denotes the dexterity game constructed in accordance with and embodying the invention. The game includes a hollow base **12** preferably made from a synthetic plastic, e.g. a butadiene 15 percent modified styrene 85 percent copolymer, polypropylene, polyethylene, or polyvinyl chloride.

A dished concave upper plate **14** forms the top of the hollow base and a flat paperboard wall **15** forms the bottom thereof. An upwardly concave contour is the preferable upper surface so that any playing elements inadvertently dropped on the playing surface will roll radially inwardly to its central portion which serves as a starting area.

The base **12** is generally circular in plan configuration with a plurality of radially extending spaced goal sectors **16** projecting from the periphery thereof. The upper surfaces of the goal sectors continue along the general slope of the concave

upper plate 14 (see FIG. 3), and a side wall 18 of the hollow base 12 surrounds the periphery of the base between the spaced goal sectors.

To prevent a playing element accidentally dropped during the play of the game from falling over the edges of the goal sectors 16 instead of rolling down the dished upper plate 14, the sectors are surrounded by a wall 20, a ledge portion of which projects above the top sloping surface of each said sector and acts as a retaining barrier.

At the center of each goal sector, the sidewall 20 is thickened to serve as a support for a scoring wheel 22 which is used by the respective players to tally the number of points scored during the progress of the game. The wheel 22 is journaled for rotation about a pin 24 which is secured in an opening on the undersurface of the thickened wall portion. An arcuate cover 26 projects radially outwardly from the thickened wall portion with the center of the arc of said arcuate cover and the center of the pin 24 lying along a common vertical axis. A scoring window 28 is formed in each cover 26 and visibly presents the selected scoring indicia on the scoring wheel 22 therebeneath.

A peripheral flange 23 projects normally from the scoring wheel 22 to the same elevation as the arcuate cover 26. The radius of the cover is less than the radius of the scoring wheel so that the upper edge of the flange surrounds the cover and the scoring wheel may freely rotate without interference from the cover. The outer surface of the flange 23 may be ribbed to facilitate hand rotation of the scoring wheel.

An arcuate supporting wall 27 projects inwardly from the thickened wall portion with the center of its arc at the common vertical centerline of the scoring wheel and cover. The radius of the arc of the supporting wall 27 is greater than that of the scoring wheel and the supporting wall extends parallel to but above the scoring wheel so that it will not interfere with the operation of said wheel. A peripheral flange 29 extends normally and downwardly from the edge of the supporting wall 27 to the flat bottom wall 15 to brace the wall.

The playing elements 30 used in conjunction with the invention are spherical and may be common marbles. They are placed on the dished playing surface and naturally roll toward the center thereof, which is the starting area for playing the game. It is an object in the playing of the game to place each playing element upon a goal seat 32, which projects from the upper surface of the scoring sectors 16.

Each goal seat is tubular in shape with a cylindrical diameter approximately one-half the major diameter of the spherical playing element. The goal seats project normally from the sloped upper surface of each scoring sector to an open end. To facilitate the emplacement and seating of the spherical playing elements 30 upon the open end of the tubular goal seats 32, the upper edges of the goal seats 32 are inwardly, downwardly chamfered. The chamfer is spherical and of a radius approximately matching that of the radius of the spherical playing elements to ensure seating of a properly placed playing element and preclude accidental unseating.

The game is played by having the participants, in turn, move a playing element from the center of the playing surface to a goal seat with a manipulator. Each participant attempts to fill the goal seats on his goal sector before all other participants. A playing element dropped before it is seated on the goal seat 32 will immediately roll down the concave playing surface of the upper plate 14 and the player will lose his turn. The first player to completely fill all the goal seats on his goal sector is the winner.

A snakelike elongate manipulator 34 is provided to further increase the skill required and enhance the excitement derived from playing the game. Each manipulator 34 includes a rigid handle 36 and a head 38 at opposite ends thereof. Intermediate and joining the ends of said elongate manipulator are a plurality of rigid segments 40. The segments 40 are formed with interconnecting hinges which may be integral with the segments.

The head 38 is provided with a pickup member 42 which facilitates the lifting and moving of the spherical playing elements 30. The pickup member is formed with two arcuate opposed legs 44, said legs being connected and commonly joined at one end thereof and spaced apart at their opposite free ends. The legs are segments of circles and are so mutually disposed as to define a circle that is mutilated by the provision of a gap between the free tips of the legs. The spaced free tips of the legs 44 are inturned and spaced apart a distance which is less than a major diameter of a playing element 30. The distance between the inturned free tips is sufficiently large to permit the tips to be easily thrust between the abutting contacting surfaces of the base 12 and a playing element 30 resting thereon.

An internal seat 46 is formed between the legs. The seat 46 is circular with a diameter greater than the distance between the leg ends and smaller than the major diameter of a spherical playing element so that the spherical playing element may be supported thereon. The space between the free tips of the legs acts as a restricted throat opening to the circular seat 46 and constitutes an arc of less than 180° of the circular periphery thereof. An inwardly downwardly arcuate chamfer 48 is formed on the periphery of the seat 46. The chamfer is spherical so that its sloping arcuate sides mate with the outer surface of a spherical playing element when said playing element is emplaced on said seat. The diameter of the spherical chamfer approximately matches that of the spherical playing elements.

An alternate embodiment of the pickup member 42*a* is shown in FIGS. 6 and 7. In this embodiment the space between the free tips of the legs 44*a* does not act as a restricted throat and constitutes an arc of 180° or greater. To prevent the playing element 30 from easily rolling out of the seat 46*a* through the throat, the tips of the legs 44*a* are upwardly slanted as shown in FIG. 6.

The pickup member 42 or 42*a* is designed to lift and carry a spherical playing element 30 over the playing surface and then deposit the same on a goal seat 32. The internal seat 46 of the pickup member is therefore of a diameter which is greater than the diameter of the goal seats so that the pickup member, if properly aligned over a goal seat 32, may be moved downwardly directly over the goal seat without touching the same and may continue downwardly after the playing element 30 is seated upon the upper open end of the goal seat.

The pickup member 42 or 42*a* is subsequently disengaged from the tubular goal seat by being slid transversely past the outer cylindrical walls thereof. For this reason, the respective dimensions of the goal seat outer diameter and the space between the free tips of the legs 44 of the pickup member are such that the spaced tips will clear the outer cylindrical walls of the goal seat.

To affix the pickup member to the manipulator, a mounting tab 50 projects from the periphery of the pickup member opposite the free tips of the legs and into the head 38 of the elongate manipulator 34. The tab 50 is attached to the manipulator head by suitable means such as a rivet 52 passing through an opening in the tab 50 and additionally engaging the head 38. Optionally, any suitable adhesive could be used to secure the tab within the head.

In order to provide an interesting and amusing game wherein a challenging degree of playing skill is required, the manipulator 34 includes means between the handle 36 and the head 38 which greatly increases the difficulty involved in controlling the movement of the head 38, adding excitement and uncertainty to the play of the game.

Intermediate the handle 36 and head 38, the manipulator 34 includes, as previously mentioned, segments 40 which are connected together by hinges all having parallel hinge axes. For ease of manufacture the segments are integral with the hinges, the segments and hinges being made of a material that is flexible in thin section. Each segment 40 is approximately cylindrical in cross section with two opposed tapered walls 54 at each end. The end walls 54 at one end of a segment 40 lie in planes whose line of intersection is perpendicular to the lon-

gitudinal axis of each segment. An integral hinge **56** joins the opposed end walls **54** of each segment with the opposed end walls of adjacent segments.

As previously mentioned, each hinge **56** has an axis which is parallel to that of all the other hinges **56** so that great mobility of side-to-side movement is encouraged.

If a player holds the manipulator **34** in his hand by the handle **36** with the longitudinal axis of the elongate manipulator in a horizontal plane and the axes of the hinges vertical, the hinges **56** are capable of pivoting and moving the head **38** in erratic and unpredicted motion. This is due to the fact that the handle **36** may be slightly twisted so that although the longitudinal manipulator axis is originally horizontal the axes of the hinges **56** are inclined from a vertical position. With the axes of the hinges **56** so inclined, the head **38** and segments **40** will pivot as the center of gravity of each segment **40** and the center of gravity of the head **38** will be inclined toward one side or the other of the hinge axis, causing the hinges **56** to pivot and the segments to swing until corrected by counter rotation of the handle. The tendency is to overcorrect so that the manipulator is, by intentional design, difficult to control. When the swing is too far overcorrected too quickly a playing element carried thereby will be unseated and drop off.

It has been found that after long periods of use, constantly carrying playing elements, a manipulator will tend to take on a permanent set with the head **38** in a downwardly drooping position. To prevent the hinges **56** from stretching and taking on such permanent set, the sides of the hinges **56** are tapered as shown in FIG. **5** to a thickened upper end having increased strength.

The manipulator is integrally formed of a flexible material such as natural rubber. Optionally, any synthetic rubber or plastic having the desired flexibility may be used. Among the synthetic plastics suitable for such application are polyethylene and polypropylene which have this flexibility in sections as thin as the hinges and are stiff enough to be self-form-maintaining in the thick sections of the segments.

In playing the game each participant is assigned a manipulator, the handle of which is colored, and the participant is additionally assigned a given goal sector which has the same color. Each participant will then, in turn, attempt to lift a correspondingly colored spherical playing element from the central starting area in the base by sliding the pickup element beneath a major equator of the playing element and lifting the manipulator which will, if skillfully handled, carry the playing element without dropping it.

The playing element is then carried by a player to his colored goal sector and deposited upon a goal seat as the manipulator is lowered with its pickup element directly over the seat. The pickup element is then shifted transversely off the goal seat beneath the seated playing element.

If a player drops his playing element at any time before being seated upon the goal, it is the next player's turn to carry marbles to his own goal seats located at a differently colored goal sector.

As the playing elements are seated on the goal seats, the players may indicate the number of marbles seated, each marble representing a point in the scoring. The scores are kept by the scoring wheels located on the thickened wall portion of each sector and the first player who completely fills all of the goal elements on his goal sector is the winner.

It thus will be seen that there are provided marble dexterity games which achieve the several objects of the invention and which are well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiments set forth, it is to be understood that all matter herein described or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

We claim:

1. A dexterity pickup game, said game comprising a game base including an upwardly concave dished playing surface, said playing surface having an elevation at the center thereof which is less than at the outer periphery thereof, a plurality of spherical playing elements, each of said elements having a major diameter, said elements rolling towards the center area of said dished base when dropped upon said base from a point radially removed from said center, a plurality of goal seats positioned adjacent the periphery of said base, means on said goal seats restraining a spherical playing element placed thereon from rolling down said base towards the center thereof, an elongated playing element manipulator suitable for lifting and carrying said spherical playing elements from said base, said manipulator having two ends and including a handle at one of said ends, said manipulator being flexible intermediate said ends in a first transverse plane and relatively inflexible intermediate said ends in a second transverse plane perpendicular to said first transverse plane, said first transverse plane being adapted to be approximately horizontal when the handle is held by a person in the play of the game, the opposite end of said manipulator being free, a pickup member secured to said opposite end, said pickup member including an open pickup seat at the interior thereof, said pickup seat having a throat opening, the diameter of said pickup seat being less than the major diameter of any spherical playing element, said throat opening being wide enough to engage a single spherical playing element resting on said base by passing between the abutting contacting surfaces of said base and said playing element, said seat engaging a single spherical playing element as said pickup member is lifted vertically, said spherical playing element resting within said pickup seat when said pickup member is in a position elevated from said playing surface.

2. A dexterity pickup game constructed in accordance with claim **1** wherein said manipulator includes a plurality of segments intermediate said ends, said manipulator having a longitudinal axis extending between said ends, each of said segments being positioned on said longitudinal axis, a plurality of hinges joining said segments, each of said hinges having a pivotal axis transverse to said longitudinal axis, all of said pivotal axes being parallel to one another, each of said segments pivoting about their respective pivotal axes as said pivotal axes are inclined from a vertical orientation when said manipulator is held in an elevated, generally horizontal position by said handle.

3. A dexterity pickup game constructed in accordance with claim **1** wherein each of said goal seats includes a member projecting up from said base, said member having an outer diameter less than said major diameter of said playing elements, said throat opening of said pickup seat being wider than said outer diameter, said goal seat member having an upwardly directed upper end, said spherical playing element seating on said upper end as said pickup member carrying said spherical playing element is lowered over said goal seat member with said pickup seat circumscribing said goal seat member beneath said upper end, said pickup seat disengaging laterally from said member through said restricted throat.

4. A dexterity pickup game constructed in accordance with claim **3** wherein said upper end includes an inwardly downwardly sloped chamfer, said chamfer being spherically dished, the spherical dish diameter being approximately equal to the spherical diameter of said spherical playing elements, said spherical playing elements nestably removably seating upon said upper end with the outer spherical periphery thereof engaging said spherically dished chamfer.

5. A dexterity pickup game constructed in accordance with claim **1** wherein a plurality of goal sectors are positioned on said base, said goal seats are arranged in a plurality of groups, each of said groups being spaced from successive groups, each of said groups being located on a separate goal sector, each of said goal sectors being of a different color, said game further including a plurality of said playing element manipulators, each of said playing element manipulators being of a color matching that of a different one of said goal sectors, so that each player may be assigned a manipulator and attempt to position said spherical playing elements on those goal seats

within the goal sector having the same color as his manipulator.

6. A dexterity pickup game constructed in accordance with claim 1 wherein a plurality of scoring sectors is provided, said scoring sectors being positioned on said base, a plurality of scoring wheels, each of said scoring wheels being positioned adjacent each of said sectors, each of said scoring wheels being journaled for rotation, a cover plate, said cover plate projecting over each of said scoring wheels, said cover plate having an opening therethrough, successive scoring indicia positioned on a surface of each of said scoring wheels, a selected one of said scoring indicia being viewable through said opening.

7. A dexterity pickup game constructed in accordance with claim 1 wherein said pickup seat includes a chamfer, said chamfer being spherically dished, the spherical diameter of said spherically dished chamfer being approximately the same as the major diameter of said spherical playing elements, a spherical playing element being nestably removably positioned on said pickup seat with the outer spherical periphery of said spherical playing element in abutting contact with said spherically dished chamfer.

8. A dexterity pickup game constructed in accordance with claim 1 wherein the throat opening is of an arc of less than 180° said throat presenting a constriction to retain the playing element on said pickup seat.

9. A dexterity pickup game constructed in accordance with claim 1 wherein the pickup member includes spaced legs, the tips of said legs forming the throat opening, said tips being upwardly sloped and serving to retain the playing element on said pickup seat.

10. A dexterity pickup game comprising a base, a plurality of spherical playing elements, said base including an upper playing surface, said upper playing surface arcuately sloping downwardly from the outer periphery thereof towards the center thereof, a plurality of goal seats positioned on said base in spaced relation from the center thereof, each of said goal seats engaging a playing element emplaced thereon and restraining said playing element from rolling down said playing surface towards the center thereof, an elongate manipulator adapted to engage a single playing element resting on the central area of said playing surface and lift the same from said central area toward one of said goal seats, said elongate manipulator including a handle at one end thereof and means engaging said playing element at the opposite end thereof, said manipulator being flexible intermediate said ends in a first transverse plane and relatively inflexible intermediate said ends in a second transverse plane perpendicular to said first transverse plane, said first transverse plane being adapted to be approximately horizontal when the handle is held by a person in the play of the game, said playing element rolling down said arcuate playing surface towards the central area thereof if inadvertently dropped from said manipulator as said manipulator carries said playing element.

11. A dexterity pickup game constructed in accordance with claim 10 wherein said goal seats project up from said base, the upper surface of said base surrounding said goal seats sloping downwardly toward said center of said upper playing surface, a playing element rolling down said sloping surface towards said center area when inadvertently dropped on said base adjacent said goal seats.