# United States Patent

[11] 3,617,063



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[45] Patented **Nov. 2, 1971**


[54] **APPARATUS FOR PLAYING A SOLAR SYSTEM EXPLORATION GAME**
**12 Claims, 14 Drawing Figs.**


[52] **U.S. Cl.** ..... **273/134 AE,** 273/134 AA, 273/134 AD, 273/134 C, 273/134 D, 273/134 G, 35/45, 74/813 R
[51] **Int. Cl.** ..... **A63f 3/02**
[50] **Field of Search** ..... 273/134; 35/45



[56] **References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 3,099,451 | 7/1963 | Newhouse | 273/134 AA |
| 3,223,420 | 12/1965 | Turner | 273/134 AA |

FOREIGN PATENTS

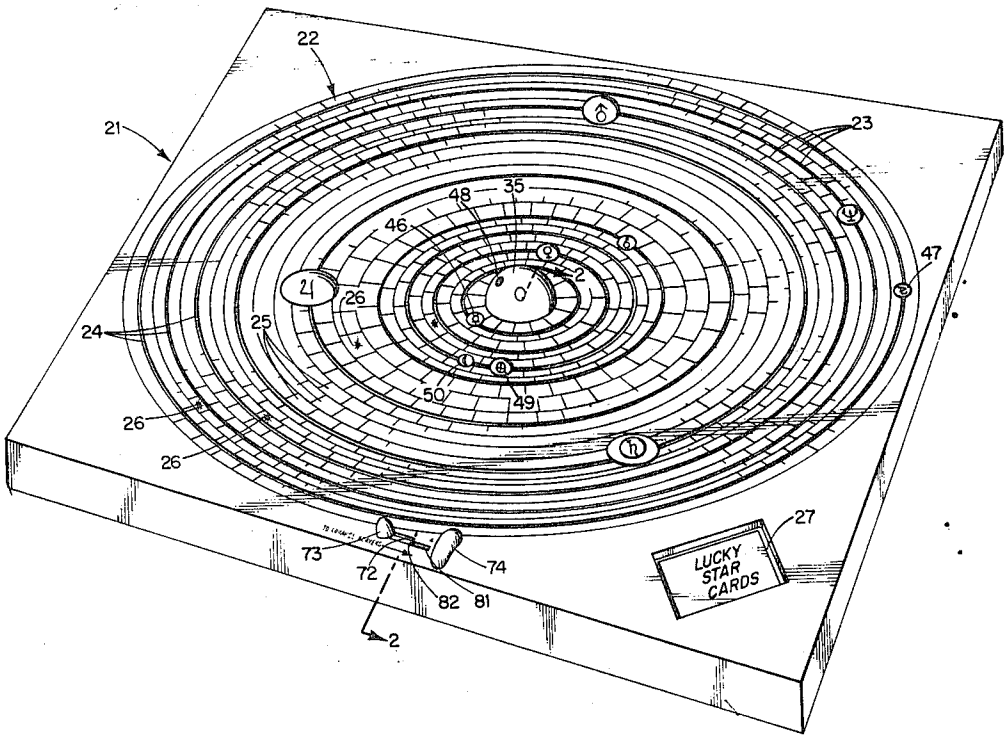
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|---|---|---|---|
| 935,310 | 8/1963 | Great Britain | 273/134 AA |
| 1,015,952 | 1/1966 | Great Britain | 273/134 AA |



*Primary Examiner*—Delbert B. Lowe
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**ABSTRACT:** A space exploration game apparatus comprising a board having rotatably mounted at its center an object representing the sun. Surrounding said object are a series of circles concentric therewith, the annular bands between said circles being divided into segments by lines radiating from the center of the board. Between said circles are slots in which are movable objects representing planets which orbit the sun. The sun and planet representing objects are moved by a gear system comprising a drive shaft having an operating knob. The apparatus further comprises game pieces, dice, cards and play money.

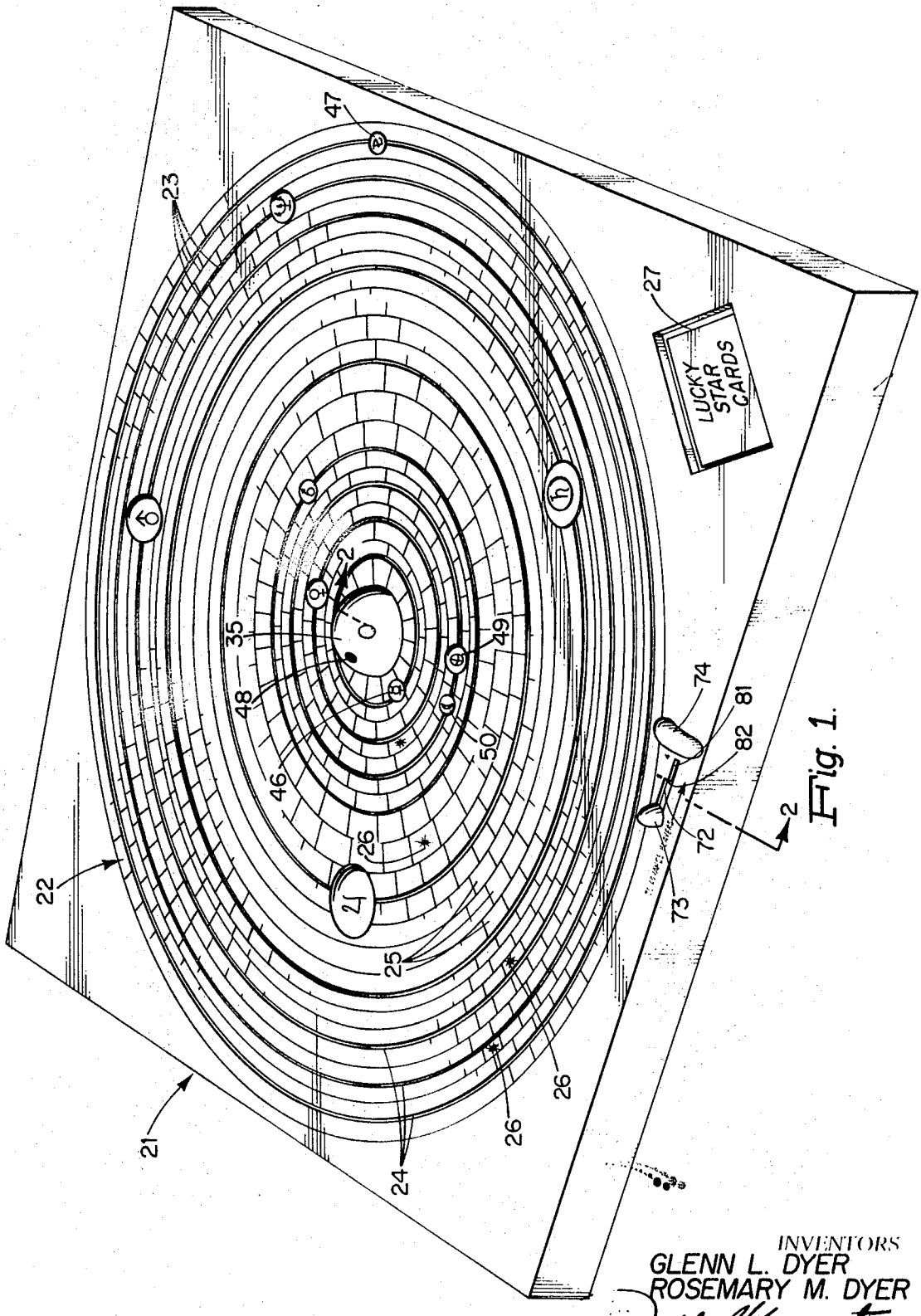



Fig. 1.

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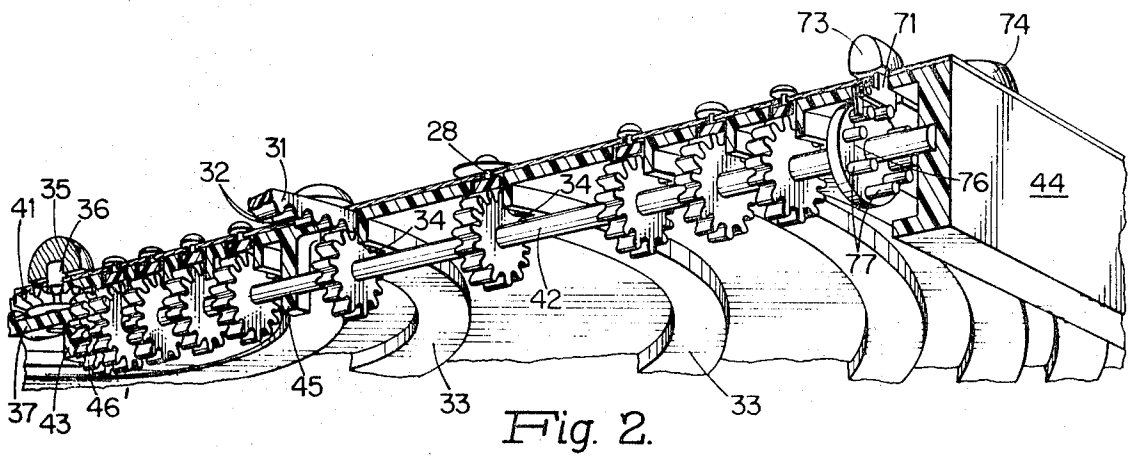



Fig. 2.

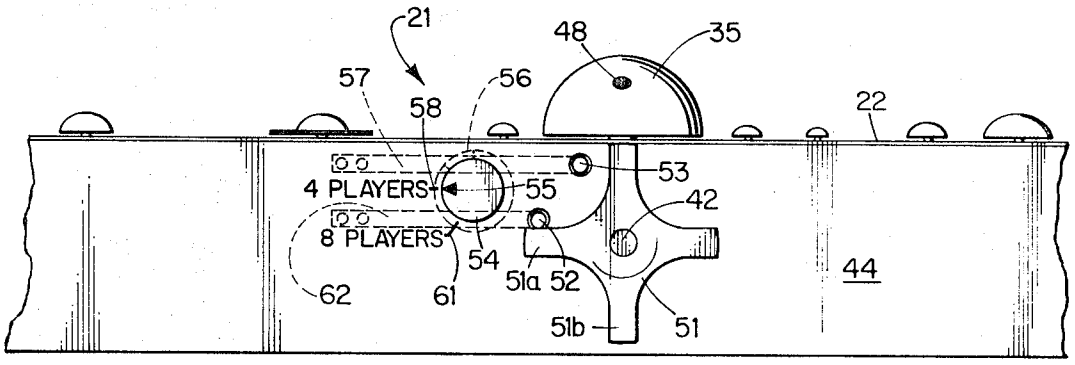



Fig. 3.

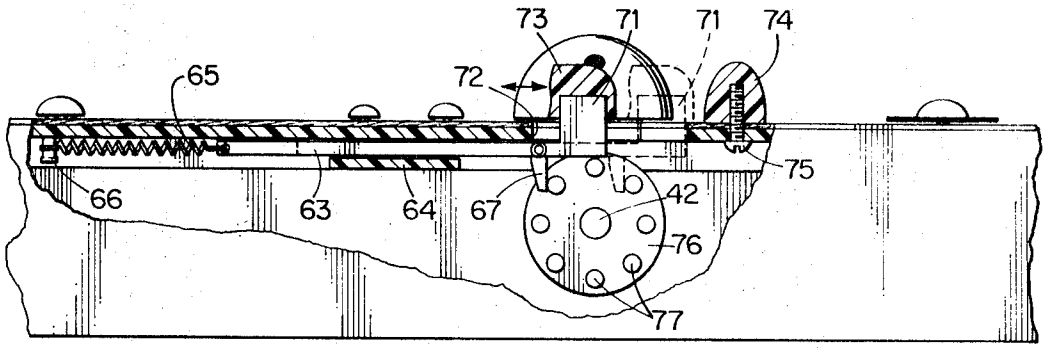



Fig. 4.

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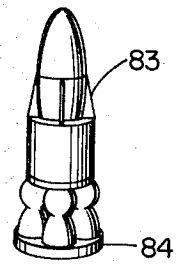



Fig. 5.

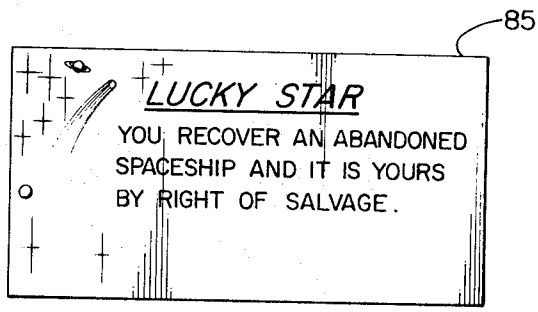



Fig. 6.

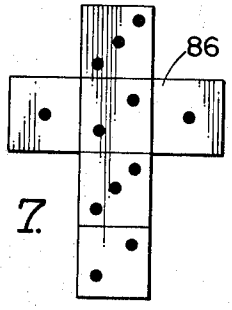



Fig. 7.

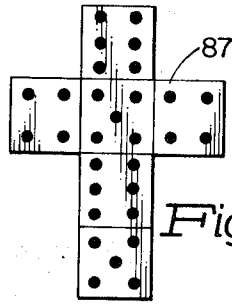



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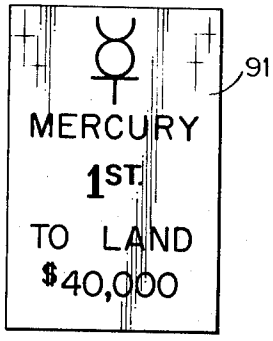



Fig. 9.

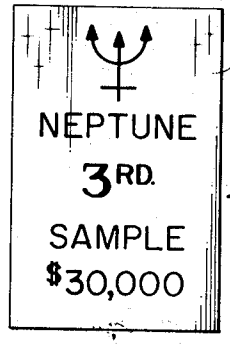



Fig. 10.

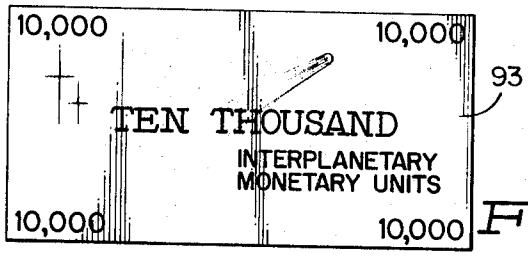



Fig. 11.

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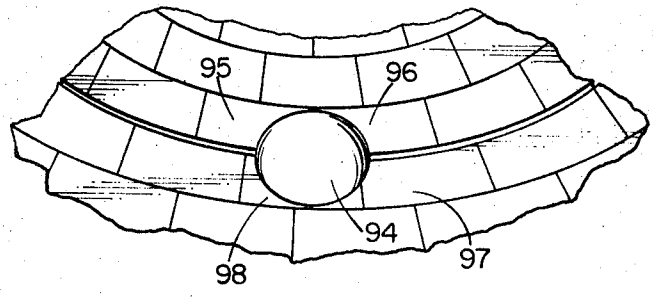



Fig. 12.

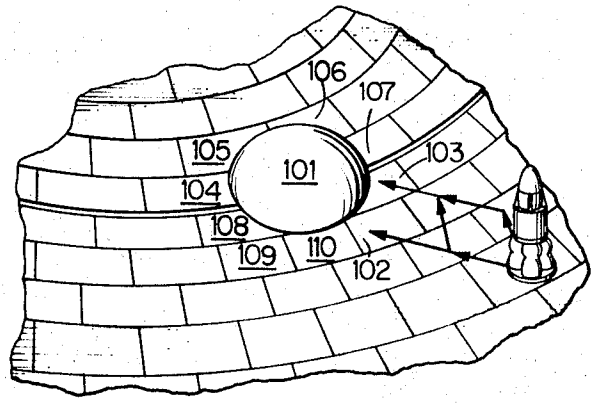



Fig. 13.

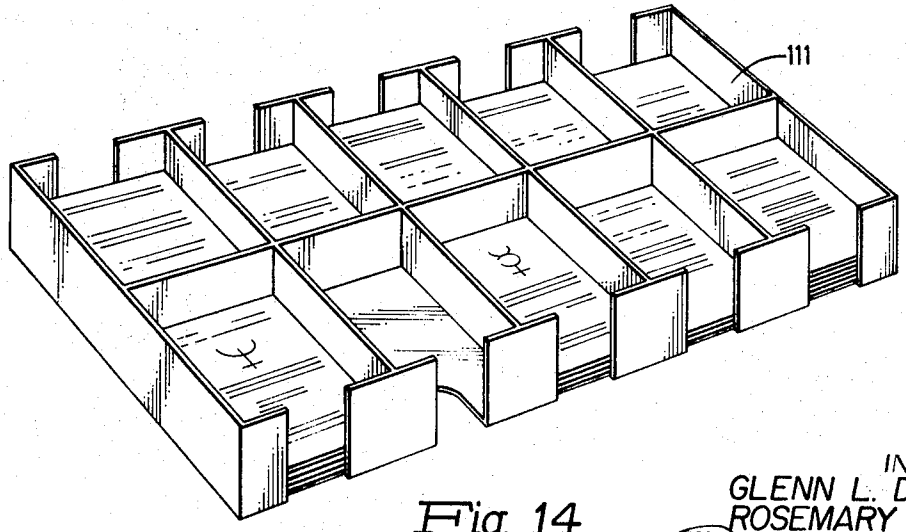



Fig. 14.

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# APPARATUS FOR PLAYING A SOLAR SYSTEM EXPLORATION GAME

## FIELD OF THE INVENTION

This invention relates in general to games and more particularly relates to a novel solar system exploration game of skill and chance.

## SUMMARY OF THE INVENTION

With the advent of actual space travel by human beings, people have become generally more aware of space and, in particular, the solar system of which Earth is a part. However, outside of a relatively few widely known facts, people are generally quite ignorant of most of the basic details of the major heavenly bodies which make up the solar system.

The present invention is concerned with a novel, educational and entertaining game which can provide many hours of parlor-type enjoyment, while at the same time providing specific useful information about the various major planets in the solar system. Broadly speaking, the game provides a game board on which are located replicas of the planets in their proper orbits, the planets being rotatable about the sun in a predetermined fashion. The size of the planets and the orbit speed of the planets on the game board and the rotational speed of the sun are of appropriate orders to provide information as to actual solar system sizes and motions. A motion-imparting mechanism or space clock is provided as part of the game board for moving the planets in their orbit after each player has taken his turn and for also indicating the identity of the next player whose turn it is. Other elements used in playing this game include specially made dice, game pieces, chance cards, planet landing and sample cards, and game money or currency.

## BRIEF DESCRIPTION OF THE DRAWING

The present invention will be more clearly understood from the following detailed description when read in conjunction with the drawing, in which:

FIG. 1 is a perspective view of the game board of this invention;

FIG. 2 is a partial perspective view of the under side of the game board with a section taken along cutting plane 2—2 of FIG. 1;

FIG. 3 is a partial end view of the game board of FIG. 1 showing a preferred embodiment of the solar clock used for movement of the sun and planets;

FIG. 4 is a side view similar to FIG. 3 showing an alternative embodiment of the solar clock;

FIG. 5 is an elevational view of a game piece used in conjunction with the game board of FIG. 1;

FIG. 6 is a sample of the chance cards used in playing the game of this invention;

FIG. 7 shows the six sides of one of the special dice used in playing this game;

FIG. 8 shows the six sides of another of the dice used in playing this game;

FIG. 9 is an example of the planet visit cards used for this invention;

FIG. 10 is an example of the planet sample cards used with the playing of the game of this invention;

FIG. 11 is a sample of the game money, or currency, used with this game;

FIG. 12 shows a portion of the surface of the game board of FIG. 1 illustrating the manner in which a planet may be landed upon;

FIG. 13 shows another portion of the surface of the game board of FIG. 1 illustrating safe and unsafe approaches to a planet; and

FIG. 14 is a perspective view of a box for holding and dispensing planet visit and sample cards.



## DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawing, and more particularly to FIGS. 1 and 2 thereof, there is shown the game board 21 and the mechanism for providing orbital motion to the planets. Game board 21 has a flat surface 22 having concentric circles 23 imprinted thereon interspersed between concentric orbital slots 24. There are nine slots 24, one for each of the planets of the solar system. The upper surface of game board 21 is preferably a metallic foil and may have any desired color. In order to denote outer space, a light blue color may be used. Each annular band between two concentric circles 23, or between a concentric circle 23 and an orbital path 24, is divided into segments 25 by radial lines, each segment representing a space on which a game piece may rest. A small number of the segments have imprinted thereon a star 26 which may be termed a "lucky star." These stars are preferably of some contrasting color, such as yellow or gold. An area 27 on one corner of surface 22 of the game board is designated "Lucky Star Cards." The purpose of the lucky stars and the lucky star card area, as well as other details of the game board, will be explained later, in conjunction with a detailed description of the rules for playing the game.

Each planet is a segment of a sphere, preferably metal, which may be mounted to the game board, as shown in detail in FIG. 2, by some suitable means such as pin 28 attached to a ring gear 31 having teeth 32 on its bottom surface. Each ring 31 rests in a channel 33 having a slot 34 therein. The sun 35 is the largest sphere segment on the game board and is secured to shaft 36 which extends through the game board surface and is pivotally mounted to plate 37 which is located beneath surface 22 and is secured to game board 21. Gear 41 is secured to shaft 36 beneath the game board surface.

A shaft 42 having its inner end rotatably mounted in plate 43, which is secured in an appropriate manner to game board 21, and its outer end rotatably mounted in side 44 of the game board, has ten gears mounted thereon for rotation with the shaft. Each of the nine gears which correspond to the nine planets extends through a slot 34 in a channel 33 for engagement with teeth 32 of a ring gear 31. One or more intermediate bearings 45 may be provided to ensure proper action of shaft 42. Sun gear 41 meshes with innermost gear 46' mounted to shaft 42. It is now apparent that when shaft 42 is rotated, sun 35 also rotates and all of the planets orbit about the sun. It is also evident that although the actual speed of all the planets are identical, the angular velocity is different for each planet. Thus, the planet Mercury 46 (FIG. 1) travels very quickly about the sun, but Pluto 47 covers a much greater distance to complete one orbit. It should be noted that each planet and the Moon 50 is marked with its appropriate astronomical symbol. The Moon, although being otherwise treated the same as the planets, remains in a constant position with respect to the Earth 49 and moves with it.

A suitable advancing mechanism or solar clock for imparting motion to the solar system bodies is shown of FIG. 3. Solar clock wheel 51 is secured to the outer end of shaft 42 which in this embodiment extends outwardly from side 44 of game board 21. Each spoke of wheel 51 is adapted to engage either of pegs 52 and 53, depending upon the number of players playing the game at any one time. If there are four players, button indicator 54, which extends outward through side 44 of the game board, is rotated so that arrow 55 points to the mark 58 labeled "4 players" on the side of the board. Inside of the game board button 54 is provided with a raised cam surface 56 which, when in the four player position, makes contact with leaf spring member 57, thereby causing peg 53 to retract into side 44 of the game board. When thus arranged, the spokes of wheel 51 will pass over peg 53 without making contact. Each time it is desired to rotate the sun and cause the planets to revolve in their orbits, button 54 is pressed inwardly so that peg 52 retracts into the side of the game board, allowing rotational movement of wheel 51. As soon as the first spoke 51*a* of wheel 51 moves clockwise past peg 52, button 54 is released,

allowing peg 52 to again extend outward from the side of the game board so that it makes contact with the next spoke 51*b* of wheel 51, thereby stopping movement of the sun and the planets. If there are eight players playing the game at one time, selector button 54 is rotated until arrow 55 points to the mark 61 designated "8 players." The raised cam surface 56 is then located between leaf spring 57 and leaf spring 62 so that both pegs 52 and 53 protrude outwardly through side 44 of the game board. Each time the planets are to be moved, button 54 is pushed inwardly and both pegs 52 and 53 are thereby retracted within the side of the game board. As soon as wheel 51 commences rotation, button 54 is released and the spoke 51*a* which was making contact previously with peg 52 will now contact pin 53, thereby stopping the rotation at one-eighth of a turn, as opposed to one-fourth of a turn which is the case when there are four players. In this way each spoke of the wheel will contact each of the buttons 52, 53 in turn, providing the necessary number of stops in the rotation of the sun and orbital movement of the planets for the game to be played by eight players.

An alternative embodiment of the solar clock is shown in FIG. 4 (and partially in FIGS. 1 and 2). In this embodiment a slide 63 is mounted in a raceway defined by the top of the game board and plate 64 which may be suitably attached to the game board to allow free longitudinal movement of the slide. The slide is normally biased toward the left as shown in FIG. 4 by tension spring 65 attached to pin 66. Latch 67 is pivotally connected to slide 63 in the manner of a ratchet. That is, latch 67 is freely rotatable counterclockwise but it is prevented from rotating clockwise. Slide 63 is further formed with a post 71 which extends through slot 72 in the top of the game board and has mounted thereon a handle 73. Also fixed to the top of the game board 21 is a hand hold 74 mounted by suitable means such as bolt 75. Wheel 76 is fixed to shaft 42 adjacent its outer end and is provided with a plurality of pegs 77. In this embodiment, which is also adapted for either four or eight players, there are eight pegs which are arranged to be engaged by latch 67. Note in FIG. 1 that slot 72 in the top of the game board is formed with an extended portion 81 labeled "4" for four players and a notch 82 labeled "8" for eight players. If there are four players, each time the planets are to be advanced in their orbits the operator grasps handle 73 and handhold 74 between thumb and fingers and moves slide 63 the full length of slot 72 until post 71 makes contact with the end of the slot. Latch 67 engages one of pegs 77 and rotates wheel 76 and shaft 42 one-quarter turn or 90°. When handle 73 is released, spring 65 returns slide 63 to its initial position as latch 67 easily rotates counterclockwise when contacting one of pegs 77 on its return trip. When latch 67 is clear of pegs 77, it rotates clockwise to the position shown, ready to engage another peg for rotation of wheel 76. If there are eight players, the slide 63 is advanced only until post 71 contacts notch 82 so that the shaft and wheel are rotated only one-eighth turn or 45°. Slide 63 and handle 73 may be moved to the slide sufficiently to engage or bypass notch 82.

The various elements used in playing this game are shown in FIGS. 5–11. FIG. 5 shows a game piece or marker 83 having a base 84 which is preferably made of magnetic material so that it will securely rest on the surface of the game board or on any of the planets. The game piece is shaped to resemble a spaceship and will be so referred to hereinbelow. An example of a lucky star card 85 is shown in FIG. 6. These chance cards have certain instructions on them, some of which are lucky and some of which are unlucky to the recipient. For example, a card may have such instructions as:

A time space warp allows you to proceed to the nearest unvisited planet.

or:

Antimatter from another galaxy comes in contact with this spaceship and destroys it. It is contemplated that approximately 35 lucky star cards would be used with this game, but the number may vary anywhere from 0 to any practicable number. FIGS. 7 and 8 show the dice which may be used in the playing of this game. There are preferably two dice similar to that shown in FIG. 7 and two other dice similar to that shown in FIG. 8. One die of FIG. 7 and one die of FIG. 8 are of one color, such as white, while the other two dice are of another color, such as red or black. It should be noted that the die of FIG. 7 has only numbers 1 through 3 on its faces, while the die of FIG. 8 has the numbers 4 through 6. The color coding is for convenience only, it being possible to use only two dice of the same color with one having the larger numbers and one having the smaller numbers. It is even possible to use conventional dice but those shown are preferred.

FIG. 9 is a representation of a planet visit card 91 which a player receives for being the first player of the game to visit a specific planet, Mercury in this case. When a player is the first to land on a particular planet, he is entitled to a certain amount of money from the "space bank." A planet sample card 92 is shown in FIG. 10 and this is the card a player would receive for being the third player to land on a particular planet, in this case, Neptune. In order to receive from the space bank the amount of currency designated on the card, the player must return to Earth safely with a particular spaceship. Each succeeding player to land on a planet gets a proportionately lower reward for bringing back a sample of the planet to Earth. The game money or currency may be of any useful type, an example of which is shown in FIG. 11. Such currency would likely have denominations such as 1,000, 5,000, 10,000, 50,000 and 100,000 interplanetary monetary units.

In playing the game, the following rules are preferably observed:

One player is chosen as the banker and another as the planet controller. Both functions could be handled by the same person if desired. The banker has charge of all of the game currency and planet visit and sample cards. The planet controller is in control of planet and sun movement. At the start of the game, each player selects a group of three space ships, all of the same color, which he is to use throughout the game. The lucky star cards are shuffled and placed face down on the position indicated on the game board.

1. To start the game, each player rolls two of the dice of the same color, and the one rolling the highest number is the first player to take his turn. When the identity of the first player has been determined, the planet-advancing mechanism is operated until the spot 48 on the surface of the sun points toward that player. Since the planets and the sun rotate in a counterclockwise direction while shaft 42 rotates clockwise, players' turns follow in succession counterclockwise around the game board. Each player starts with one of his space ships 83 on the planet Earth 49. Assuming that each of the planets and the surface of the game board are made of metal, the magnetic base 84 of each game piece will hold the marker firmly in place wherever it is put. Thus, the first player may stand his marker on the planet Earth to start the game.

2. Before he moves his spaceship, each player first announces to the other players whether he intends to go inward toward the sun or outward toward outer space and whether he wants to proceed a relatively large distance or a relatively small distance. If he wishes to proceed a small distance, he will take the die 86 color coded for the proper direction of movement (assuming white indicates inward movement and black indicates outward movement), and roll that die and proceed generally radially in the direction and the number of spaces indicated by the die thrown. "Generally radially" means that although there is some choice in the path to be taken from one band to the next due to the fact that nearly every position space 25 on the surface of the game board overlaps at least two such spaces on the next adjacent annular bands, a spaceship must always proceed from one band to another and cannot proceed orbitally. Therefore, there is a range of choices as to the direction to be traveled so that a player may, by moving generally radially, proceed in a zigzag course around the board and travel completely around the sun. A player also has

a choice of passing at any particular move to wait for a different alignment of the planets by announcing "pass." Since a player has a relatively wide latitude of choices of the distance and direction he is going to move, he has a large amount of control over whether he will land upon a particular planet or upon one of the lucky star spaces during a particular move, or whether he will simply land upon an otherwise unoccupied space. If a particular leg of his trip brings him to a stop on one of the lucky star squares, he takes the top card 85 of the stack of cards on area 27 of the game board and reads it to determine whether he has been lucky or unlucky and what he is to do. He may be directed to go to a particular planet, he may be declared to have lost his spaceship, or he may be instructed to do something in the future.

With reference now to FIG. 12, it will be shown how a player can land upon a particular planet. A planet may be landed upon by arriving at any space which is partially covered by the planet on the side of the planet from which the space ship is approaching. If a player is proceeding outward from the sun and wishes to land upon planet 94, the last step of the leg of the journey indicated by the roll of the die must land him on either space 95 or 96, which spaces are assumed to be in contact with the planet. Or if a player is proceeding inward he may land upon planet 94 by stopping at either space 97 or 98, but only those spaces.

3. If a space ship is resting upon a space which is touched by a planet during its orbital movement as caused by the rotation of the space clock, the ship is considered to have suffered a hard landing and is thereby destroyed. The player must then launch one of his remaining space ships from Earth at his next turn. If a player lands on a space which is behind and partially occupied by a planet, the space ship is also destroyed by means of a hard landing. With reference to FIG. 13, a spaceship 83 positioned as shown may reach planet 101 by throwing a "2" on die 86 and proceeding to space 102. He may also reach the planet by rolling a "3" and proceeding either of the two ways shown to arrive at space 103. If, however, he should land upon space 104, 105, 106 or 107, for example, he will have suffered a hard landing and the space ship 83 will have been destroyed and retired from the game. Spaces 108, 109 and 110 are safe for a landing but cannot be reached from the position of the spaceship in FIG. 13 without orbital movement, which is prohibited. On the next turn of this player, planet 101 would have moved a substantial distance from the position shown.

4. Landing on the sun destroys the space ship and the player again must launch another ship from Earth at his next turn if he has a spaceship remaining.

5. If a spaceship goes more than one space beyond the orbit of the planet Pluto 47, it is in outer space and cannot return until the player, in his regular turn, rolls a "6" on die 87. Should he roll a "6," the spaceship is placed on the adjoining space and on his next turn the player proceeds normally. If a "6" has not been rolled in two turns, the spaceship is lost and removed from play, and the player may then launch another ship from Earth at his next turn. An alternative to rolling a "6" in two tries is to give up the spaceship immediately and launch another ship from Earth on his next turn.

6. The path of a space ship in passing may make use of a space partially but not completely covered by a planet. However, if after rolling the die, a player finds that he cannot proceed without going to a space completely covered by a planet, his ship has again suffered a hard landing and is destroyed.

7. For each first landing on a planet during the playing of the game, a landing award is paid, according to the amount specified on the first landing card 91. This is paid immediately to the player for accomplishing the landing. At the same time, a sample of the planet is taken, such as card 92, the first player to land getting the first landing card and the first sample card, the second player to land getting the second sample card and so on. These sample cards may be cashed for currency when that particular spaceship returns safely to Earth. If a spaceship which has samples aboard is lost or destroyed, then those sample cards are returned to the planet visit and sample card box 111 shown in FIG. 14. Other players holding higher numbered samples for the same planet then exchange them for the lower numbered samples in the sample box. Landings on a planet after the ninth landing do not earn sample cards and are of no value.

8. An accounting of all players' holdings (currency and sample cards) may be requested by any player at any time during the course of the game.

9. The instructions on a lucky star card may be followed at once or they may require future action. If they are followed at once, the card is returned to the bottom of the deck. If they are for future action, they are retained by the player until that action has been taken and are then returned to the bottom of the deck.

10. When a player has lost all of his space ships he is out of the game unless he can buy one from another player. The price for which such a spaceship may oe sold is bargained for at that point and a price range could reasonably be in the vicinity of 100,000 to 400,000 units.

11. Suitable lucky star cards may be sold by one player to another.

12. If a spaceship at any time during its trip uses a space occupied by another spaceship, this is considered a collision and both ships are destroyed. Each of the players involved must wait until their next regular turn before launching another ship from Earth. This may be a part of the strategy of one player who has an excess of space ships to remove another player from the game by colliding with his spaceship.

13. More than one spaceship may be on the same planet or on the moon at the same time, without penalty.

14. When a player lands on Earth he receives a return to Earth card and after he has received three such cards, he can turn them in for 50,000 units.

The game ends when any one of the following conditions are met:

a. Only one player has a spaceship left. He wins.

b. One player returns to Earth for the third time. The winner is then the one with the most money after that player has cashed in his sample cards and received the 50,000-unit third return to Earth fee.

c. One player has gained 1 million units. He wins.

d. All nine planets and the Moon have been landed on. The player with the most money at this point wins.

Of course, the rules set forth above are only one preferred way of playing the game, modifications being possible or desirable in a number of particulars, and may be made to suit the players for any game they wish to play. For example, the lucky star cards may be omitted. It is possible to use only regular dice having the numbers 1 through 6 on their faces, thereby giving the players only the choice of direction and not magnitude of distance in which to travel. This would increase the element of chance and commensurately decrease the element of skill involved in the game. Of course, the currency rewards for various landings on the planets are completely arbitrary. The planet sample card holder box 111 is not a necessity, merely a convenience and may be omitted if desired. It is also possible that a game board might be so constructed as to provide a pocket to hold all of the game elements shown in FIGS. 5 through 11 and FIG. 14. Furthermore, the surface of the game board and the planet need not be made of metal, but may be made of any suitable material such as plastic. This would, of course, mean that game pieces 83 need not have magnetic bases 84. It should be recognized that if the number of players is not precisely four or eight, the game may still be played with equal interest by simply moving the planets as if the proper number were present, but moving two or more times between plays in order to pass the positions of missing players. The spot on the sun will always point toward the next player. Instead of using slots in the board to connect the planets to the underlying ring gear, it is possible to have a magnet move around beneath the game board for each planet, so

that the planets are moved magnetically, without direct connection.

To further enhance the appearance of the game board, a light bulb may be provided inside the sun and the surface of the sun may be translucent so that it can light up when the game is in operation. Suitable arrangements for the placing of a battery and a switch may be provided. These elements may easily be mounted to shaft 36 upon which sun 35 is mounted. Many other changes and modifications may be made which are within the scope of this invention.

What is claimed is:

1. Game apparatus comprising:

a game board having a surface with a series of spaced concentric circles thereon, the annular bands between said circles being divided into segments by lines radiating from the center of said game board, predetermined ones of said circles representing individual orbits of the solar system planets;

an object projecting above said surface representing the sun and being rotatably mounted at the center of said concentric circles;

a plurality of objects projecting above said surface representing the planets of the solar system, said planet representing objects being mounted for orbital movement about the sun representing object along said orbit representing circles; and moving mechanism mounted to said game board and coupled to said sun- and planet-representing objects, said moving mechanism being selectively operable to cause rotation of the sun-representing object and orbital motion of the planet-representing objects.

2. The game apparatus recited in claim 1, said moving mechanism comprising:

a plurality of concentric annular channels beneath the surface of said game board, one of said channels being beneath each orbit-representing circle;

a like plurality of toothed rings, one residing in each of said channels and being rotatably movable therein;

said game board surface having a slot therethrough for each orbit-representing circle, each planet-representing object being mounted to its respective toothed ring for movement therewith.

3. The game apparatus recited in claim 2 wherein:

said moving mechanism further comprises a clock mechanism including a rotatable shaft having a plurality of gears thereon, one gear for each planet-representing object and one for the sun-representing object, said shaft extending from adjacent the center of said game board beneath the surface thereof radially outward to one edge of said game board, each of said channels having a slot in the bottom wall thereof, said planet-representing object gears extending through said slots to engage the teeth of said rings, another gear being attached to said sun-representing object beneath the surface of said game board and adapted to engage the innermost gear on said shaft, whereby upon rotation of said shaft, the sun-representing object rotates and the planet-representing objects move in their orbits about the sun-representing object.

4. The game apparatus recited in claim 3 wherein said clock mechanism further includes:

a wheel secured to said shaft adjacent the outer end thereof, said wheel being readily accessible to be incrementally rotated to cause incremental rotation of said shaft.

5. The game apparatus recited in claim 1 and further comprising a plurality of dice having numerical indications on their faces, at least one die being capable of indicating only the figures 1, 2 and 3 and at least one die being capable of indicating only the FIGS. 4, 5 and 6.

6. The game apparatus recited in claim 5 wherein said plurality of dice comprises two dice of different colors indicating the FIGS. 1, 2 and 3 and two dice of the same different colors indicating the FIGS. 4, 5 and 6.

7. The game apparatus recited in claim 5 and further comprising:

a plurality of game pieces adapted to be individually, manually moved across said game board by the game players;

a plurality of "planet visit" cards, one for each of said planets;

a plurality of "planet sample" cards for each of said planets; and a supply of game currency.

8. The game apparatus recited in claim 7 and further comprising a plurality of chance cards having instructions printed thereon affecting the playing of the game; and wherein a randomly spaced number of said segments on said game board surface are marked to indicate that they are chance segments, whereby whenever a game piece lands upon one of said chance segments the player using that game piece is entitled to receive a chance card and must obey the instructions printed thereon.

9. The game apparatus recited in claim 8 and further comprising a card box from which said "planet visit" cards and "planet sample" cards are easily dispensed.

10. The game apparatus recited in claim 1 and further comprising:

a plurality of game pieces adapted to be individually, manually moved across said game board by the game players; and wherein

said surface of said game board is covered with a metal coating;

said planet-representing objects are made of metal; and

said game pieces have a magnetic base;

whereby said game pieces are positively attracted to said game board surface and said planet-representing objects.

11. The game apparatus recited in claim 1 wherein said sun-representing object is provided with a relatively small mark at one point on its surface spaced from its axis of rotation, said mark being adapted to rotate with said sun-representing object and indicate the player whose turn it is.

12. The game apparatus recited in claim 1 and further comprising an object projecting above said surface representing the Moon, said Moon-representing object being secured in a fixed relationship with the Earth-representing object and orbiting therewith.