Dec. 14, 1943. W. R. BLACK ET AL 2,336,773

MARBLE GAME

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Fig. 1.

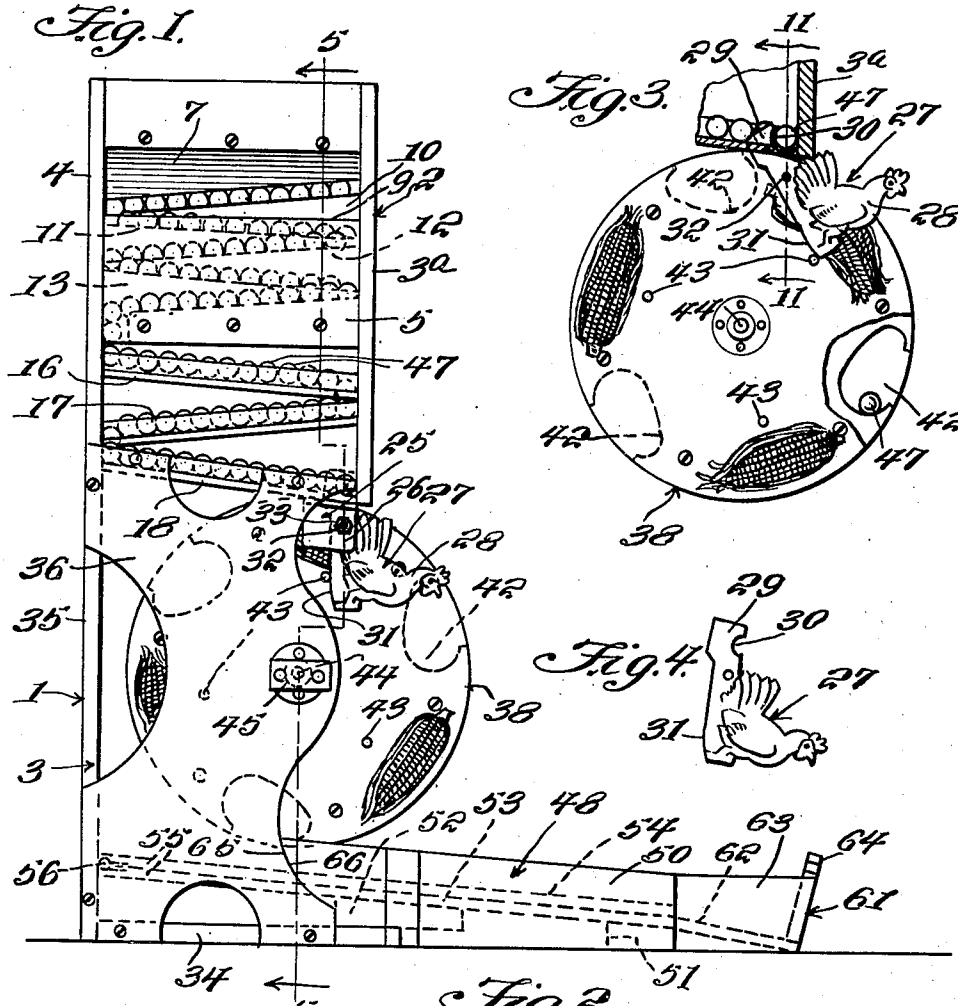
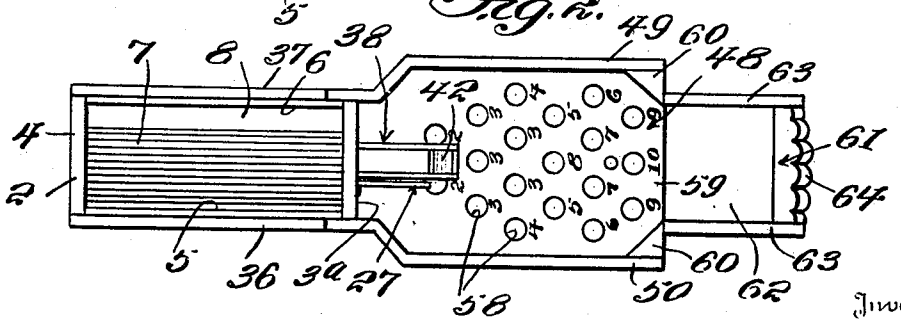


Fig. 3.

Fig. 4.

Fig. 2.



Inventors

Wiley Roy Black

Joe A. Kennedy

By Lacey & Lacey, Attorneys

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Fig. 5.

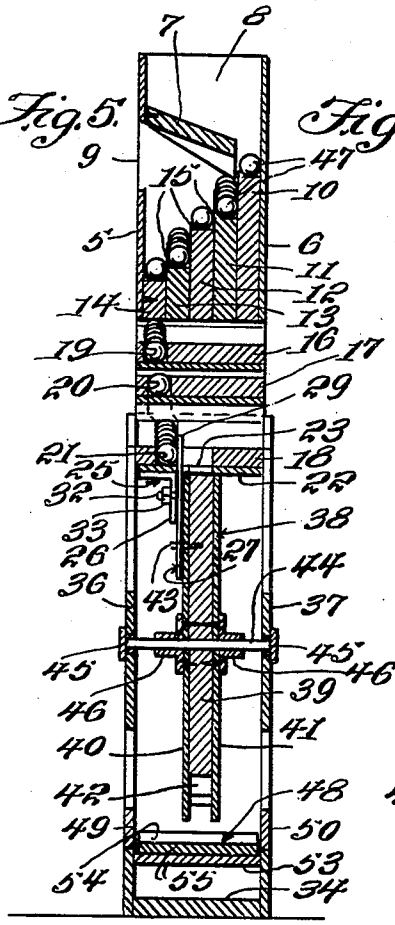


Fig. 6.

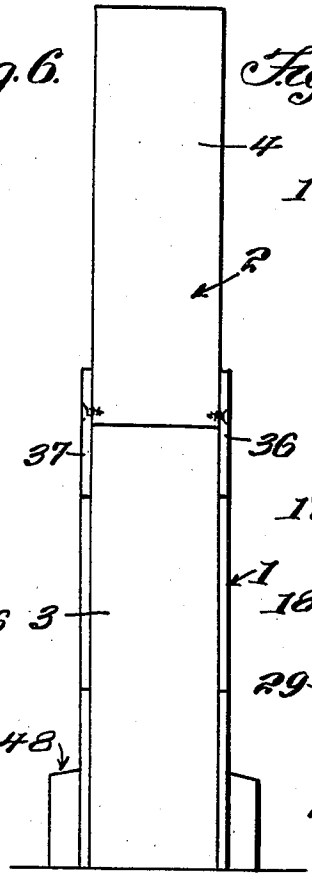


Fig. 12.

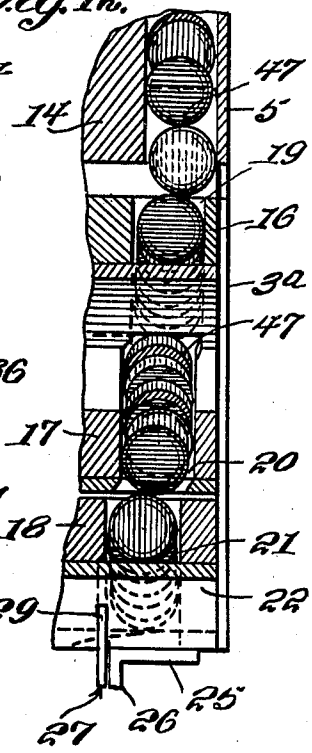
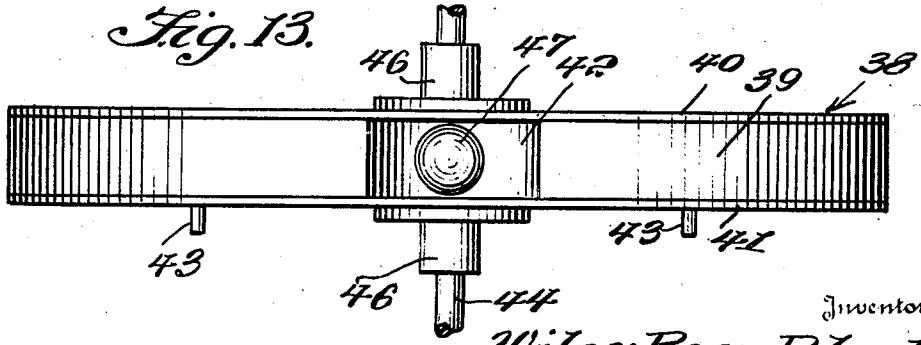


Fig. 13.



Inventors
Wiley Roy Black
Joe A. Kennedy
By Lacy & Lacy,
Attorneys

Dec. 14, 1943. W. R. BLACK ET AL 2,336,773

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Fig. 7.

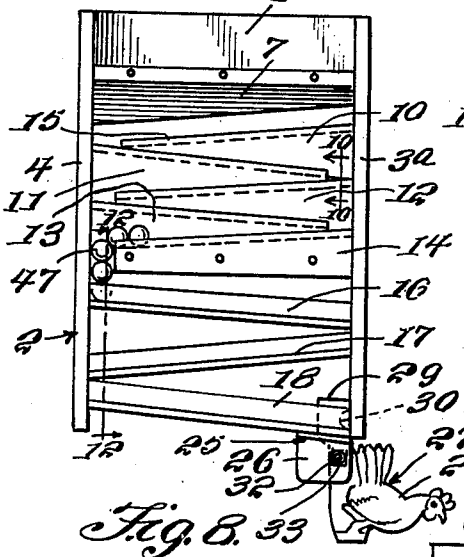


Fig. 8.

Fig. 10.

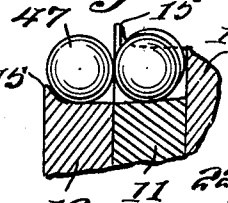


Fig. 11.

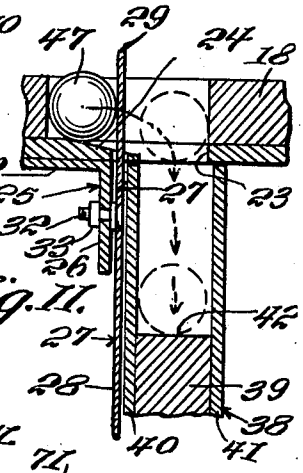


Fig. 14.

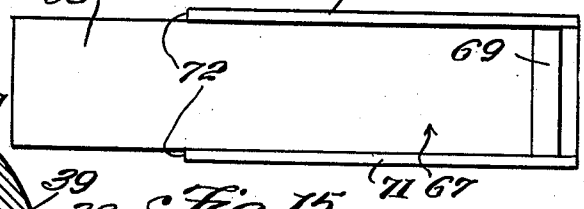


Fig. 15.

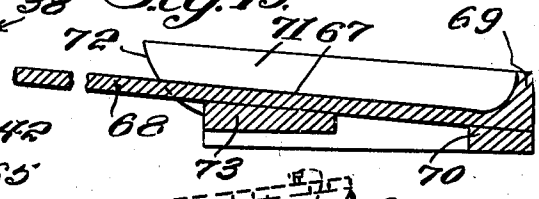
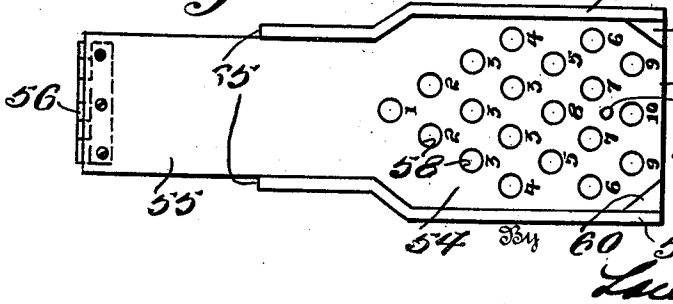


Fig. 9.



Inventors
Wiley Roy Black
Joe G. Kennedy

By Lacey & Lacey, Attorneys

Patented Dec. 14, 1943

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UNITED STATES PATENT OFFICE

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MARBLE GAME

Wiley Roy Black and Joe G. Kennedy,
Spokane, Wash.

Application August 4, 1941, Serial No. 405,396

4 Claims. (Cl. 273—120)

This invention relates to games and more particularly to an improved marble game.

One object of the invention is to provide a marble game which will be very attractive in appearance and which will afford amusement for both young and old.

Another object of the invention is to provide a marble game wherein a plurality of ramps for the marbles is employed, with the result that a large number of marbles may be put in motion at the same time, thus adding to the attractiveness of the game.

A further object of the invention is to provide a game of this character which will be absolutely harmless.

A still further object of the invention is to provide a marble game wherein means is employed for permitting convenient return of the marbles to the starting position, after said marbles have dropped to the game board employed.

And still another object of the invention is to provide a marble game having a marble wheel for shifting individual marbles from the lower end of the lowermost of the ramps to a position to drop on the game board.

And a further object of the invention is to provide a machine of this character which employs an improved trip which is very attractive in appearance.

Further objects of the invention, not specifically mentioned hereinbefore, will become apparent during the course of the following description.

In the drawings:

Figure 1 is a side elevation of our improved marble game,

Figure 2 is a top plan view,

Figure 3 is a detail side elevation, partly in section, showing the marble wheel and trip employed,

Figure 4 is a detail side elevation of the trip,

Figure 5 is a vertical sectional view on the line 5—5 of Figure 1 looking in the direction indicated by the arrows,

Figure 6 is a rear view,

Figure 7 is a detail side elevation showing the marble ramp unit and trip,

Figure 8 is a detail sectional view showing the marble wheel and game board construction,

Figure 9 is a detail top plan view of the game board,

Figure 10 is an enlarged detail sectional view on the line 10—10 of Figure 7,

Figure 11 is an enlarged detail sectional view on the line 11—11 of Figure 3,

Figure 12 is an enlarged detail sectional view on the line 12—12 of Figure 7,

Figure 13 is an enlarged detail elevation showing the marble wheel,

Figure 14 is a detail top plan view, on a reduced scale, showing a game board of modified construction, and

Figure 15 is a detail vertical sectional view of the game board of Figure 14.

In the drawings similar numerals of reference are used to designate like parts throughout the views.

The numeral 1 indicates in general the frame of our improved marble game. The frame 1 includes a ramp unit 2 and a marble wheel unit 3. The ramp unit is best seen in Figures 1, 5 and 7 of the drawings. By referring first to these views, it will be seen that the ramp unit 2 includes front and rear walls 3a and 4 which are connected by side walls 5 and 6. Mounted in the ramp unit 2 near its upper end and extending transversely is a downwardly inclined wall 7 defining a trough which cooperates with the front and rear walls 3a and 4 and the side walls 5 and 6 to define a hopper 8. The front wall 5 is cut away to define a sight opening 9.

The ramp unit 2 includes a plurality of inclined ramps which are indicated at 10, 11, 12, 13 and 14. Each of said ramps is preferably formed from a single board or thickness of material and, in order to prevent marbles from falling off the ramps, each of said ramps is formed along its outer edge with a flange 15. As best seen in Figure 5, the ramps 10 to 14 are arranged in stepped relation, the ramp 10 having its upper end communicating with the lower end of the inclined plate 7 and the plate 14 having its lower end communicating with the upper end of the uppermost ramp of the second series of ramps to be described in more detail hereinafter. As will be seen, the ramps extend throughout the entire width of the unit 2 so that marbles passing from the hopper onto the upper end of the plate 10 will progress forwardly so that, when they reach the lower end of the ramp 14, they will be disposed in close spaced relation to the side wall 5.

Carried by the ramp unit and extending throughout the width thereof are three relatively wide ramps 16, 17 and 18 which are formed with troughs 19, 20 and 21, respectively, which troughs are, as best seen in Figure 5, disposed in substantially vertical alinement. The ramps 16, 17 and 18 are inclined so that the lower end of the ramp 16 communicates with the upper end of the ramp 17, and the lower end of the ramp 17 communi-

cates with the upper end of the ramp 18. The lower end of the ramp 18 is disposed at the lower end of the unit 2 and adjacent the lower end of the front wall 3a.

It will now be seen that marbles, placed in the hopper 8, will roll along the ramps 10, 11, 12, 13 and 14 and from the ramp 14 said marbles will drop to the upper end of the ramp 16 and will roll along the ramps 16, 17 and 18 to the lower end of the unit 2. It should be understood, of course, that, at the meeting ends, the flanges 15 of the ramps 10 to 14 are cut away to permit passage of the marbles from one ramp to the next. Similarly, the troughs 19, 20 and 21 are each provided, at the meeting ends of the ramps 16, 17 and 18, with openings of a sufficient size to permit the marbles to pass from said ramp 16 to the ramp 17 and, of course, from the ramp 17 to the ramp 18. As best seen in Figures 5 and 11, the bottom wall of the ramp 18, which bottom wall is indicated at 22, is formed with a relatively wide discharge opening 23 which is located at the lower end of the trough 21 laterally thereof. The wall 22 is, adjacent the discharge opening 23, downwardly inclined, as shown at 24, to assure that marbles passing from the trough will be allowed to roll freely through the opening 23.

Mounted on the ramp unit 2 at its forward end is an inverted L-shaped bracket 25, said bracket being bolted or otherwise suitably secured to the under surface of the wall 22 near the side wall 5. The bracket 25 is formed with a vertically extending leg 26 which is disposed in close spaced relation to the discharge opening 23. Pivotally mounted on the leg 26 of the bracket is a trip 27. The trip includes a body 28, in the shape of a chicken, and a gate portion 29 which is formed with an arcuate front edge portion 30. The gate portion, as best seen in Figure 11, extends upwardly into the trough 21 between the open end thereof and the discharge opening 23 for limiting discharge of marbles from the said trough 21. The trip 27, further, is provided with a slightly curved rear wall 31. In order to pivotally mount the trip 27 on the leg 26, we provide a pivot bolt 32 having a nut 33 thereon.

The marble wheel unit 3 is mounted below the ramp unit and, in fact, supports said ramp unit in operative position. Said marble wheel unit includes a bottom wall or base 34 and a rear wall 35. Closing the sides of the marble wheel unit are side walls 36 and 37 which walls are cut away as desired to add to the ornamentation of the machine and to permit observation of the marble wheel to be described hereinafter.

The marble wheel is indicated generally by the numeral 38 and includes a body 39 and face plates 40 and 41. The body 39 is formed with cut away portions which have mouths disposed on the periphery of the wheel and cooperate with the face plates 40 and 41 to define pockets 42. As will be seen in Figure 8, the pockets increase in depth toward their corresponding forward ends. As shown in Figure 8, the wheel is provided with three of the pockets 42. However, it should be understood that as many pockets as are desired may be employed. Carried on the wheel 38 and extending laterally from the plate 40 thereof are spaced pins 43 which are three in number. That is to say, one of the pins is provided for each of the pockets 42. As shown, the pins are mounted substantially mid-way between the pockets and also substantially mid-way of the radius of the wheel.

The marble wheel 38 is rotatably mounted between the walls 36 and 37 and beneath the discharge opening 23 by a shaft 44, said shaft having its opposite ends journaled in bearings 45 in said side walls 36 and 37. The shaft is connected with the wheel by means of bosses 46 which are screwed or otherwise suitably secured to the axle portion of the wheel. As best seen in Figure 5, the wheel is disposed so that its perimeter will be disposed in close spaced relation to the discharge opening 23 and so that the trip 27 will be disposed in close spaced relation to the face plate 40. It will now be seen that, when the wheel 38 is rotated, the pins 43 will contact the curved rear wall 31 of the trip 27 for shifting the trip about the pivot bolt 32. When this is done, the gate portion 29 of the trip is swung for permitting a marble, a typical one of which is shown at 47, to roll along the inclined wall 24 and drop through the discharge opening 23 and into one of the pockets 42 in the wheel.

Our improved marble game includes a game board unit which is shown generally by the numeral 48. The game board unit includes side members 49 and 50 and board mounting studs 51 and 52. Mounted on the studs 51 and 52 between the side members is a base board 53, and hingedly connected to the rear end of said board is a game board 54. As will be seen clearly in Figures 8 and 9, the boards 53 and 54 have rearwardly extending portions 55 which are connected by a hinge 56, for establishing the hinged connection hereinbefore mentioned. As will also be seen, the stud 52 is disposed slightly higher than the stud 51 with the result that the boards 53 and 54 will be inclined downwardly toward their forward ends. Mounted on the board 54 near its forward end and substantially medially of its length is a knob 57 which is adapted for manual engagement when it is desired to swing the board 54 upwardly with respect to the board 53, as shown in dotted lines in Figure 8. The board 54 is provided with a plurality of openings 58 which are of a size to receive the marbles 47 and, when the board is raised, to permit said marbles to pass therethrough. The openings are arranged as shown in Figure 9 and each of the openings may be indicated by a number so that, when the marbles are in position a score may be added.

As shown at 59, the forward end of the game board unit 48 is provided with a discharge opening, blocks 60 being disposed at each side of said opening to guide marbles therethrough. Normally mounted adjacent the discharge opening 59 is a marble receptacle 61 which is provided with an inclined bottom wall 62, side walls 63 and an upwardly and forwardly inclined front wall 64. The receptacle 61 is open at its rear and normally has said open rear end disposed adjacent the mouth 59 so that marbles passing through the mouth will roll into the receptacle from the base board 63, when the game board 54 is raised.

It is desired to point out that, as shown at 65, the side members 49 and 50 have their rear ends curved so as to mate with curved portions 66 of the side walls 36 and 37. In addition, the forward end of the base 34 engages beneath the stud 52 for firmly yet removably retaining the game board unit in operative position with respect to the marble wheel unit.

In operation, marbles are first placed in the hopper 8 and on the plate defining the trough 7. The marbles will roll onto the ramps 10, 11, 12, 13 and 14 and from said ramps to the ramps 16, 17 and 18. When all of the marbles have been placed in the hopper and have rolled down the

ramps, the marble wheel 38 is partially rotated manually. When this is done, the pin 43 will contact the curved wall 31 of the trip 27 for swinging the trip forwardly and thus rocking the gate portion thereof rearwardly for allowing passage of one marble through the discharge opening. When the gate portion has been moved out of obstructing position, the pocket 42 rearwardly of the trip latching pin will be disposed beneath the discharge opening 23 so that the marble will drop into the pocket. The weight of the marble in the pocket will cause the marble wheel 38 to swing downwardly with the result that the next pin will again actuate the trip for permitting another marble to drop into the next preceding pocket. As the wheel rotates, the pockets will be shifted downwardly to permit the marbles to be discharged onto the playing board 54. The marbles will, of course, roll along the board and will either drop into one of the openings 58 or will pass through the discharge 59 into the receptacle 61. It will be understood that the wheel will rotate as long as there are marbles in the ramps. After all the marbles have been discharged onto the playing board and the scores have been added up, the board 54 is swung upwardly for releasing the marbles from the openings. Said marbles will thus roll through the opening 59 into the receptacle 61. The receptacle may be lifted clear of the board unit and raised to the top of the device for discharging the marbles into the hopper 8.

By way of further explanation, it is desired to state that, when a number of persons desire to play the game, each player takes six marbles of one color. The marbles are mixed and placed in the hopper 8 and then the wheel is started. A player whose marbles fall into the openings adding to the highest score wins the game. Alternatively, the player who has the most marbles in the openings 58 wins.

In Figures 14 and 15, we have shown a slightly modified embodiment of game board unit. In these figures, the numeral 67 indicates an inclined board which is provided with a flat unobstructed upper surface. The board 67 is inclined toward its forward end and is provided with a tongue 68 which is disposable beneath the wheel 38. At its lower end, the board is provided with a curved end wall 69 and beneath said end wall with a stud 70. Side members 71 close the sides of the unit and are provided with curved rear walls 72 to cooperate with the curved portion 66. A stud 73 is mounted beneath the rear end of the board 67 for providing the necessary support. It is to be noted that, in this embodiment of game board unit, no separate receptacle is provided. Also, the board is not formed to define a playing surface. This particular embodiment of the invention is particularly adapted for use by small children and others who are not interested in attaining a high score but are merely interested in watching the marbles roll on the ramps, and in watching the wheel rotate in response to marbles dropping into the pockets 42 thereof.

The surfaces of the plates 40 and 41 may be suitably ornamented as may be the entire machine. As shown in Figures 1 and 3, the surface of the plate 40 is ornamented with ears of corn so that, when the wheel is rotating, the chicken, shifting back and forth, simulates movement of a live bird eating corn.

The invention is characterized mainly by its attractiveness and utility. It will be particularly attractive to young children.

In view of the fact that the ramp unit, marble game unit and game board unit are detachably connected, the device may be readily taken down when it is desired to transport it from place to place.

It is thought that further description is unnecessary.

Having thus described the invention, what is claimed as new is:

1. In a marble game, a marble wheel mounted for rotation in a vertical plane and including a body having a plurality of pockets, face plates carried by the body and at said pockets, said pockets increasing in depth toward their forward ends, and means for rotatably connecting the marble wheel to a frame, said pockets being adapted to receive selectively a marble, the weight of said marble moving the wheel to a position for discharging said marble.

2. In a marble game having a hopper and a ramp and provided with game pieces movable from the hopper along the ramp; a wheel rotatably mounted below the ramp and provided with marble receiving pockets and having pins projecting from a face thereof, one of said pins being disposed between adjacent pockets, a trip pivotally mounted below the ramp and movable upon engagement by a pin from a position limiting movement of a game piece from the ramp to a position releasing said game piece to pass from said ramp.

3. In a marble game as recited in claim 2, wherein said trip consists of a substantially flat plate including a body and a gate portion, said body being engageable by one of said pins and said gate portion normally confronting a portion of the ramp.

4. In a marble game having a frame, hopper and ramp and provided with game pieces movable from the hopper along the ramp; a marble wheel rotatable on the frame, a trip on the frame beneath the ramp and engageable by the game pieces, and means carried by the marble wheel for releasing the trip upon rotation of said wheel whereby a game piece will fall into the marble wheel.

JOE G. KENNEDY.
WILEY ROY BLACK.