C. H. PAJEAU.

GAME APPARATUS.

APPLICATION FILED MAR. 1, 1916.

1,187,923.

Patented June 20, 1916.

4 SHEETS—SHEET 1.

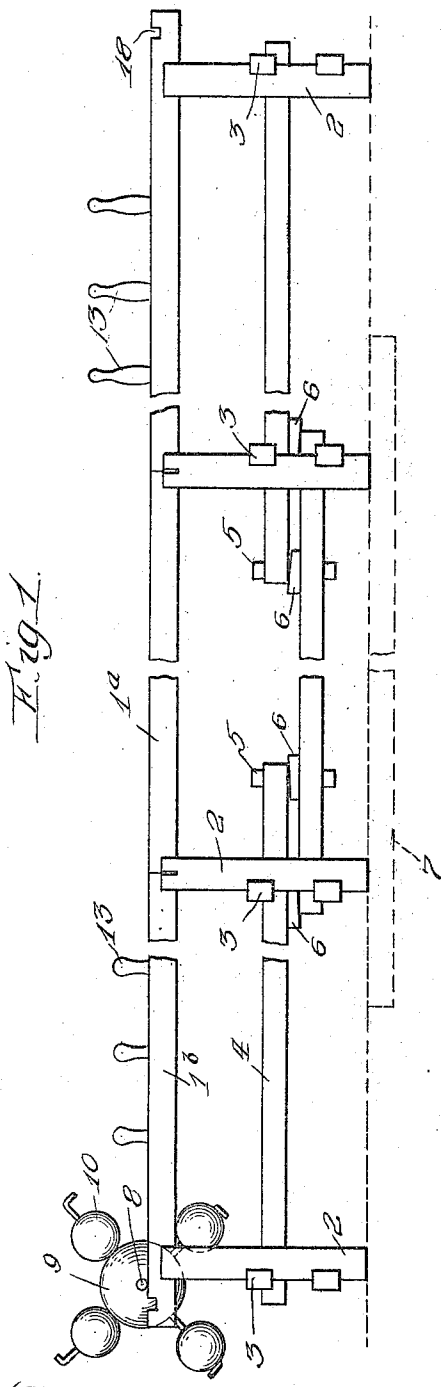


Fig. 1.

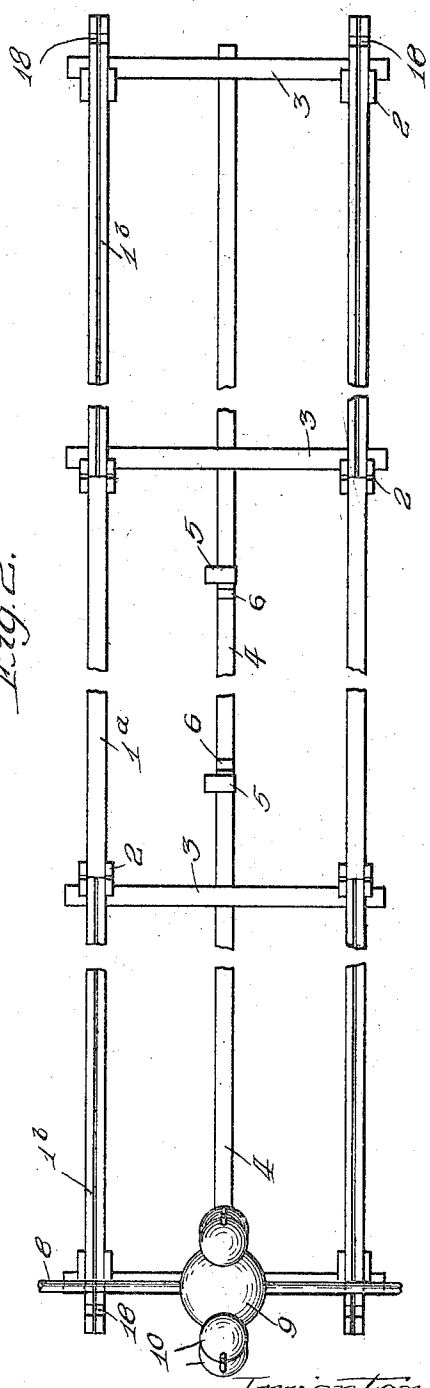


Fig. 2.

Witness:
R. L. Farrington

Inventor:
Charles H. Pajeau
By Albert Scheidt, Attty

C. H. PAJEAU.

GAME APPARATUS.

APPLICATION FILED MAR. 1, 1916.

1,187,923.

Patented June 20, 1916.

4 SHEETS—SHEET 2.

Fig. 3.

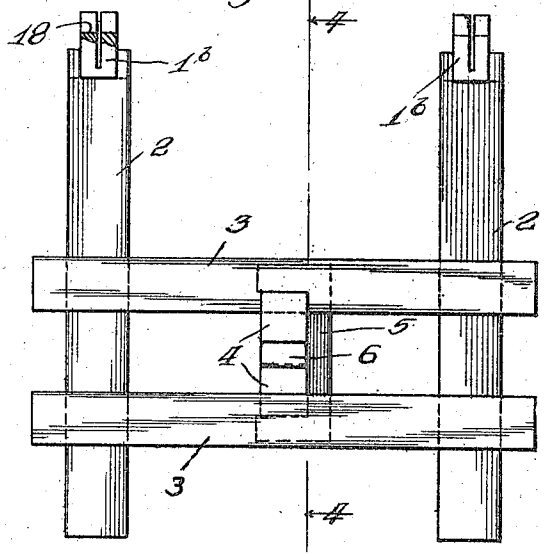


Fig. 4.

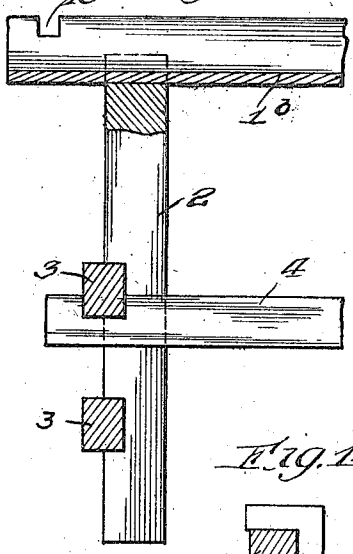


Fig. 14.

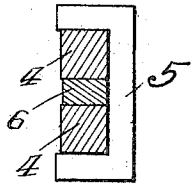


Fig. 5.

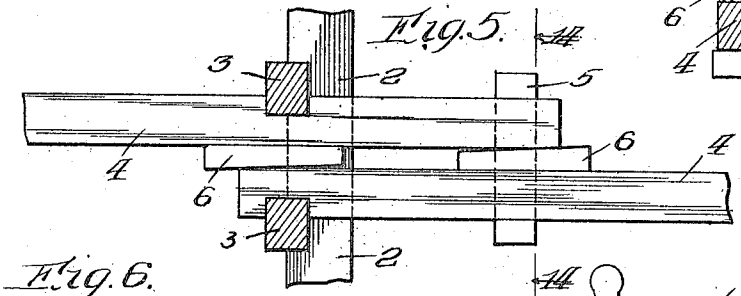


Fig. 6.

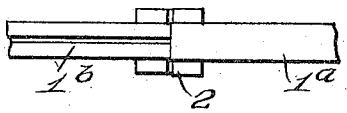


Fig. 7.

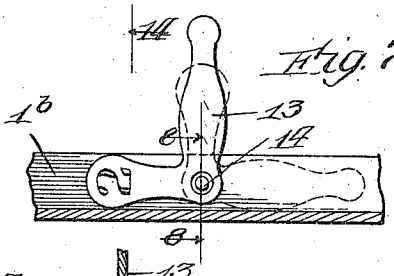


Fig. 9.

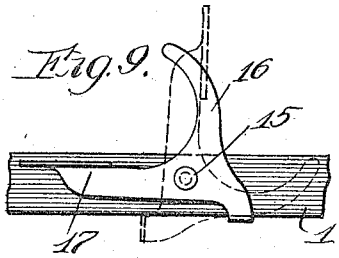


Fig. 10.

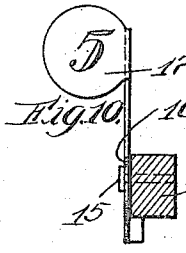
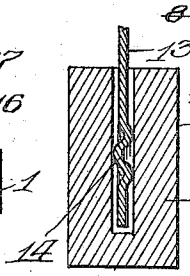


Fig. 8.



Witness:
E. L. Farrington

Inventor:
Charles H. Pajeau
by Albert Scheibla, Atty.

C. H. PAJEAU.

GAME APPARATUS.

APPLICATION FILED MAR. 1, 1916.

1,187,923.

Patented June 20, 1916.

4 SHEETS—SHEET 3.

Fig. 11

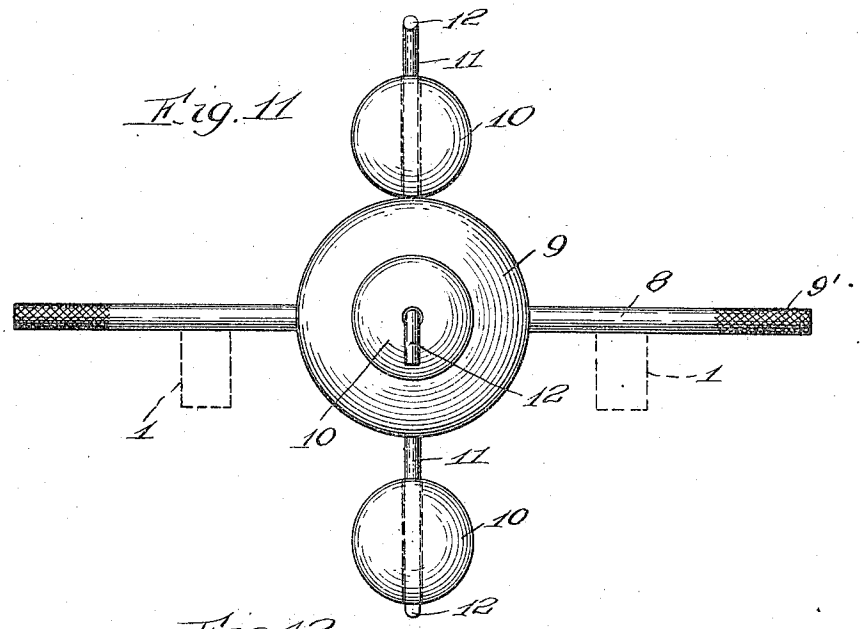


Fig. 12.

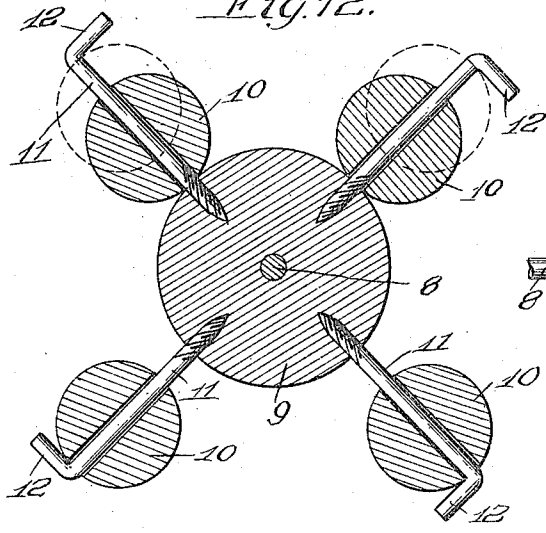
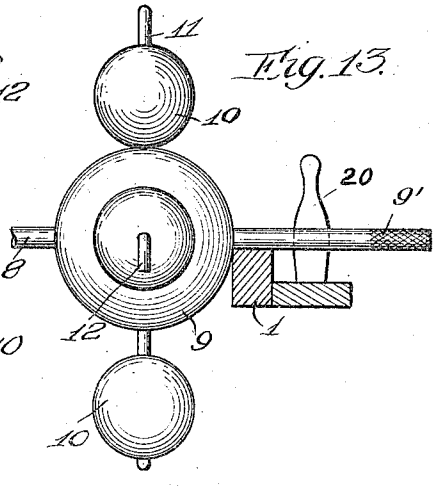


Fig. 13.



Witness.

R. L. Farrington

Inventor.

Charles H. Pajeau

By Albert Scheith, Atty.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. H. PAJEAU.

GAME APPARATUS.

APPLICATION FILED MAR. 1, 1916.

1,187,923.

Patented June 20, 1916.

4 SHEETS—SHEET 4.

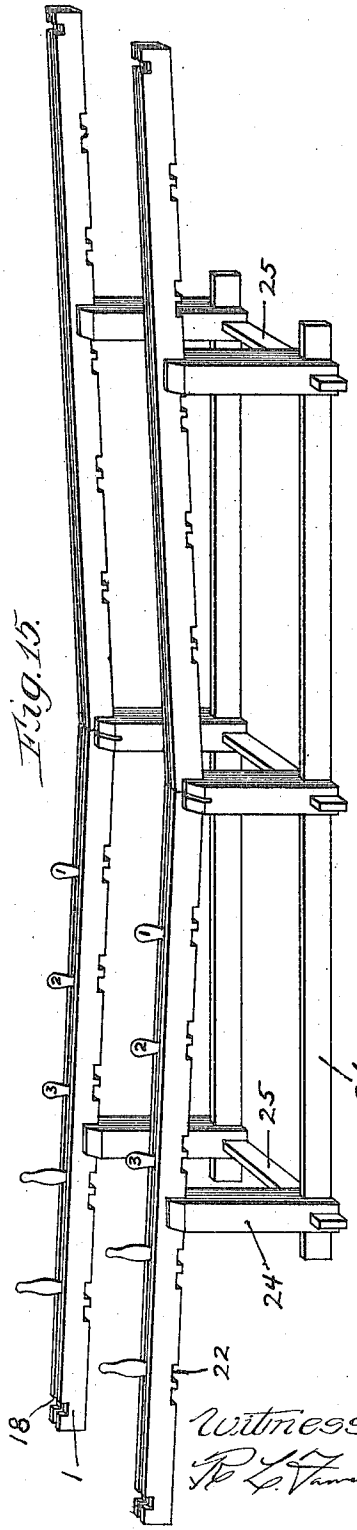


Fig. 15.

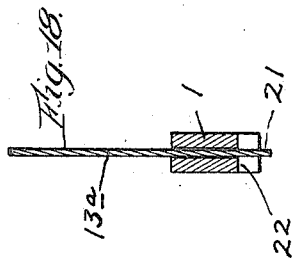


Fig. 16.

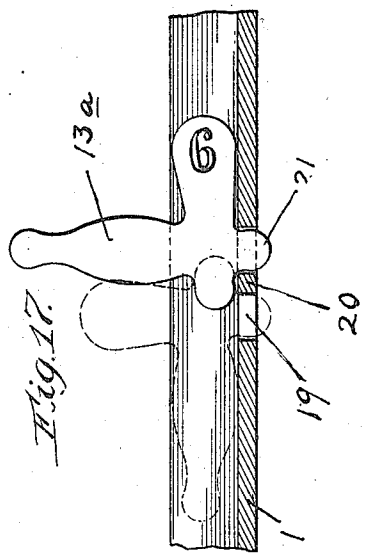


Fig. 17.

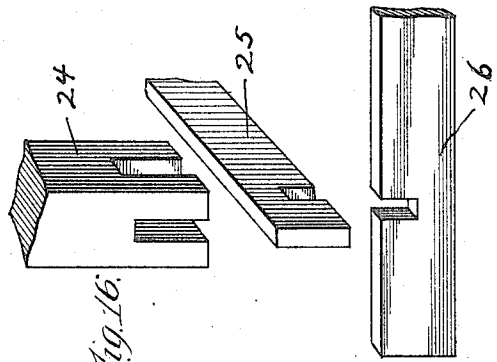


Fig. 16.

Witness:
R. L. Farrington

Inventor:
Charles H. Pajeau
By Albert Scheible Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. PAJEAU, OF EVANSTON, ILLINOIS.

GAME APPARATUS.

1,187,923. Specification of Letters Patent. Patented June 20, 1916.

Application filed March 1, 1916. Serial No. 81,360.

To all whom it may concern:

Be it known that I, CHARLES H. PAJEAU, citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Game Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to game apparatus, one of its general objects being to provide an apparatus composed of parts which may be packed compactly and which may be assembled and erected without the use of tools and preferably also without the use of bolts or screws; to provide means for affording the desired rigidity and alinement in the assembled parts, and means for permitting the erected structure to be safely supported on a relatively small table.

The main objects of my invention also include the providing of a game apparatus which will permit of considerable skill on the part of the players, which will readily display the score made during each play, which will automatically reset the score-indicating elements during the next play, and which will introduce the fascination of watching a revolving game element spin toward the score-indicators.

Further objects of my invention are to provide a rotating game element which will be propelled by the momentum imparted to it by an initial rotary movement, and in which the said propelling effect will be rapidly checked when the speed of rotation falls below a certain rate.

More particularly, my invention aims to provide a double rail track which may easily be assembled with the rails in rigidly alined positions. to provide a traveler adapted to be propelled upon the rails, to provide scoring elements upon or near the rails in the path of the traveler, to provide means for checking the motion of the traveler if not moved in alinement with the rails, to provide means for halting the traveler if propelled beyond a certain portion of the rails; to provide means carried by a rotated part of the traveler for balancing the rotation thereof when rotating above a given speed and for unbalancing the rotation at lower speeds; to provide simple means for enabling the rotating movement to be manually imparted to a traveler element by the player; to provide opposite ends of the track with duplicate score-indicating elements, thus enabling the track to be used alternately in opposite directions; and to provide simple means for pivotally mounting the score-indicating elements on the track and for permitting said elements to be altered in their pivot positions to meet the requirements of various games.

Further objects will appear from the following specification and from the accompanying drawings in which—

Figure 1 is a fragmentary side elevation of a game apparatus embodying my invention, with the traveler in a starting position. Fig. 2 is a plan view of the same without the score-indicating elements. Fig. 3 is an enlarged end view of the track structure of Figs. 1 and 2. Fig. 4 is a vertical section through Fig. 3 along the line 4—4 at one end of the track. Fig. 5 is a fragmentary view showing the method of interlocking the track beams. Fig. 6 is an enlarged plan view of one of the joints between the central and end rails. Fig. 7 is a fragmentary view of a slotted rail portion having a score-indicator frictionally pivoted in the slot. Fig. 8 is an enlarged transverse section through a rail and a score-indicator, taken along the line 8—8 of Fig. 7. Fig. 9 is a fragmentary view showing another type of score-indicator pivoted to a side of a rail. Fig. 10 is an end view of a rail equipped with the indicator of Fig. 9. Fig. 11 is an end view of a traveler when at rest. Fig. 12 is a central vertical section through Fig. 11. Fig. 13 is a fragmentary transverse section through a traveler and a rail supporting another type of score indicator. Fig. 14 is a transverse section through Fig. 5. Fig. 15 is a perspective view of a simplified track structure equipped with another form of score-indicators. Fig. 16 shows details of the base construction. Fig. 17 is an enlarged section of a rail showing the method of supporting the score-indicators. Fig. 18 is a transverse section through Fig. 17.

The apparatus of my invention is preferably constructed of parts which can be entirely disconnected for compact shipment, thereby affording the user the added satisfaction of erecting the entire apparatus be-

fore playing with the same. For this purpose I preferably use wood for the majority of the parts, making the track of the apparatus of a pair of sectional rails supported by uprights which are connected by beams running parallel to the rails of the track. Thus, in Fig. 1, each rail is made up of a central section 1^a and a pair of end sections 1^b, both rails being supported by uprights consisting of posts 2 notched at their upper ends to clampingly receive the rail sections, these posts being connected by transverse timbers 3 which, in turn, are united by stiffeners 4 extending below the rails and parallel to the latter. The intermediate posts have their notched upper ends slotted transversely to provide each with two pairs of spring fingers adapted independently to clamp the adjoining end portions of adjacent rail sections, thereby firmly gripping rail sections of somewhat different thicknesses. The stiffeners 4 connecting consecutive uprights are preferably overlapped for a portion of their length and tightly clamped to each other (as by the hooks 5 and wedges 6 of Figs. 1, 5 and 14) so as to unite them into a rigid continuation of each other, thereby affording a structure which will firmly support the rails in horizontal alinement even when the uprights at either end overhang the table or other support for the game apparatus. For example, the construction of Fig. 1 would afford the desired firmness and alinement even when used on a relatively small table top, such as that shown in dotted lines at 7.

For the moving element of my apparatus, I provide a traveler movable upon the track and preferably including a roller element 8 spanning the rails and rolling upon the upper surface of the latter when rotated. To start a rotation of the roller 8 I preferably equip the latter with at least one end projecting laterally beyond one of the rails and equipped with suitable hand-hold formations, such as the nurling 9′, for enabling this end to be firmly grasped for manually rotating the roller. To effect a sufficiently prolonged continuation of the rotating movement for causing the roller to traverse a relatively long rail, I preferably equip the roller 8 with means for storing some of the energy imparted to the roller by the manual rotating of the same (after the manner of a fly-wheel), as for example by mounting on the roller a hub 9 carrying equivalent weights 10 upon equivalent radial arms 11. Upon rotating the roller at a sufficient speed to cause the centrifugal action to slide the weights 10 out against the stops 12 at the ends of the said arms, these weights coact to form a fly-wheel which affords a balanced rotation for the roller and which utilizes its stored momentum in causing the roller to travel along after the manual manipulation of the same has ceased. In this way, I am able not only to make a roller of small diameter traverse a relatively great length of trackage, but also to afford sufficient momentum in the roller for actuating score-indicating elements disposed in the path of the roller near the farther end of the track.

For the score-indicating elements I provide any suitable objects disposed in the path of the traveler, and preferably mount these objects either on the rails or alongside the latter. Thus with slotted rail sections, I can use elbow-shaped indicators 13 each having a raised hub 14 which frictionally engages the sides of the slot as shown in Fig. 8, thereby affording a detachable pivotal mounting for the indicator without the use of screws or other auxiliary fastening devices. The indicators used may be varied in shape and size to suit the rules of the game which is to be played and may either be numbered on the parts exposed in the path of the traveler or upon portions normally concealed but brought into view by the engagement of the traveler with the indicators. For example, Figs. 1 and 7 show elbow-shaped indicators (made of metal, cardboard or other punchings) each of which normally exposes a portion simulating a ten-pin, but which conceals this portion and exposes a numbered score-indicating portion when the indicator is moved about its pivotal mounting by the impact of the roller against the normally exposed part of the indicator. Likewise, Figs. 9 and 10 show metal punchings pivoted to a rail by means of pins 15 and presenting either a hook portion 16 or a score-indicating portion 17 above the upper surface of the rail, according as the punching is in one or the other of the positions shown in full and in dotted lines in Fig. 9. In this case, a lug 18′ engaging the under surface of the rail 1 serves as a stop for the movement of the indicator in both directions, while in the embodiment of Fig. 7 the bottom of the slot in the rail acts as the stop.

In using the pivoted indicators of Figs. 7 or 9, an engagement of the same by the roller when traveling in a reverse direction after the indicators have been moved to their score-indicating positions will return the same to their original positions, so that the indicators will be automatically reset by propelling the traveler successively in opposite directions. I therefore preferably build my game apparatus double-ended, by providing each end section with a series of score-indicators and actuating the traveler alternately from the opposite ends of the track. In doing so, the energy required for resetting the nearer series of indicators detracts from the momentum of the roller, thus increasing the difficulty of judging the amount of initial effort required to cause the roller to actuate

all of the further series of indicators without passing beyond the latter into a notch or gutter 18, the entrance of which may annul the score of the actuated indicators. To further increase the difficulties of the various games which may be played with my apparatus, I preferably provide the roller with an element adapted to frictionally engage one or the other of the rails of the track if the roller is not started in proper alinement with the track; as for instance, by making the hub 9′ of a considerable size so that it will bear against one of the rails 1 as in Fig. 13 in case the traveler was not accurately directed.

Referring again to the momentum-storing portion of the traveler, I have found that with an ordinary fly-wheel construction the energy consumed by the upsetting of the score-indicators is rarely sufficient to halt the traveler before the latter reaches the zero stop 18. I therefore preferably use momentum-storing means in a form which will be unbalanced by gravity when the speed of the traveler falls below a predetermined rate, as for example by using the sliding weight construction of Figs. 12 and 13. With this construction, the sliding weights (which, like the hub 9′ may be of wood) readily coact to produce a fly-wheel effect when the roller carrying these weights is revolving at the minimum speed at which the centrifugal action prevents gravity from retracting the weights from their outward positions. However, as soon as the speed of rotation falls below this minimum, the weights will slide upon the screw-shanks, thereby producing a jerky action and rapidly slowing the roller down to a stop.

Instead of depending upon a boss 14 on the scoring member to maintain the pivot of this member at a fixed point on the rail, this pivot may be defined by an element fast upon the rail, such as a pivot pin 15. Or, this pivot element may be integral with the rail, as in Figs. 15, 17 and 18, which show each rail equipped upon its bottom with a pair of closed spaced transverse notches. These notches afford pairs of adjacent perforations 19, each pair of which is equivalent to a single perforation spanned by a bridge piece 20. The movable or scoring member may then be provided with a pair of legs 21 adapted to straddle this bridge piece and respectively to enter the two perforations, so that this bridge piece affords a substantially pivotal support for the scoring member. At the same time, the sides of the slot will maintain the scoring member constantly in a given plane.

In playing games with such apparatus, it requires both practice and good judgment to impart such an initial momentum to the traveler that the latter will be unbalanced by its successive impact against the score-indicating elements at such a point during its said impacts as to cause the traveler to come to rest before the roller reaches the zero notch 18, and preferably between the latter and the last of the row of score-indicating elements. Moreover, the momentum required for this purpose may be altered by varying the number of the impact elements and the spacing between the latter, thereby increasing the difficulties of making perfect scores, such changes being particularly easy with the frictionally pivoted type of score-indicators. However, I do not wish to be limited to this type of indicators, nor even to pivoted indicators, nor to other details of constructions herein disclosed, it being evident that the latter may be varied greatly without departing from the spirit of my invention. For example, the scoring or impacted elements might be simple ten pins 20 set upon a shelf at one side of a rail, as in Fig. 13. So also, instead of depending upon a manual rotation of the shaft of the traveler for imparting the needed motion to the latter, I may incline the starting portion of the track so as to obtain part or all of the propelling motion by gravity, and may likewise incline the opposite end of the track so that gravity will retard the movement of the traveler past the scoring members. Thus, Fig. 15 shows a track having both end portions inclined downward toward the center of the track, thereby causing gravity to aid both in initially propelling the traveler and in afterward halting the latter.

I claim as my invention:

1. A game apparatus, a track, a roller traveling upon the same, scoring means disposed along the track in the path of the roller, and means for halting the roller after it has passed the said means.

2. In game apparatus, a track, a roller traveling upon the same, scoring means disposed along the track in the path of the roller, and adapted to be moved out of their normal positions by the roller, said scoring means being adapted to be moved back to their normal positions by the roller when the latter travels upon the track in the reverse direction.

3. In game apparatus, a track, a roller traveling upon the same, scoring means disposed along the track in the path of the roller, and normally inoperative balancing means carried by the roller and made operative by the initial rotation of the latter.

4. In game apparatus, a track, a traveler movable thereupon; and speed-retarding means carried by the traveler and actuated when the speed of the traveler falls below a given rate.

5. In game apparatus, a track, a traveler movable upon the track, scoring means so dispesed along the track as successively to

retard the speed of the traveler, and speed retarding means carried by the traveler and actuated when the speed of the latter falls below a given rate.

6. In game apparatus, a track, a roller movable upon the same, and a plurality of elements carried by the roller and movable with respect to the latter; said elements coacting to balance the roller when the latter is rotating at a predetermined minimum speed, and unbalancing the roller when the latter is rotating at a lesser speed.

7. In a game apparatus, the combination with a rigid member and a relatively movable indicator member partially housed thereby, of means integral with the rigid member and engaging integral portions of the indicator member for affording a pivotal connection therebetween.

8. In a game apparatus, a longitudinally slotted rail having a closed bottom pierced by a perforation, a bridge spanning said perforation, and a relatively movable element having a pair of legs straddling the bridge and maintained in substantially a fixed plane by the sides of the slot in the rail.

9. In a game apparatus, the combination with a track having an initially downwardly sloping portion, of a traveler movable upon the track, along said portion by the action of gravity, and a scoring member movably mounted upon another portion of the track in the path of the traveler.

10. In a game apparatus, the combination with a track having end portions sloping respectively upward from a common center portion, of a traveler movable upon the track and adapted to be actuated by gravity when released at one end of the track, and a scoring element disposed near the other end of the track in the path of the traveler.

11. In a game apparatus, the combination with an inclined rail having a longitudinal slot, of a traveler movable upon said rail, and a scoring member partially housed by said slot and presenting a portion projecting beyond the surface of the rail into the path of the traveler.

12. In game apparatus, a pair of substantially parallel rails, a roller spanning and rolling upon both rails and presenting a hand-hold formation disposed outside of the rails, and means carried by the roller and disposed between the rails for storing momentum during the initial rotation of the roller.

13. In game apparatus, a pair of substantially parallel rails, a roller spanning and rolling upon both rails and presenting a hand-hold formation disposed outside of the rails, and means carried by the roller disposed between the rails for storing momentum during the initial rotation of the roller, and means associated with the aforesaid means for retarding the action of the said momentum when the speed of rotation of the roller falls below a predetermined rate.

14. In game apparatus, a track, a roller movable upon the same, and a plurality of elements carried by the roller and movable with respect to the latter, said elements being symmetrically disposed with respect to the axis of the roller, thereby enabling them to coöperate for balancing the rotation of the roller when the latter is moving at a speed exceeding a predetermined minimum.

15. In game apparatus, a track, a roller movable upon the same, a plurality of equivalent arms carried by the roller radially of its axis, and equivalent elements slidably mounted respectively on the said arms.

16. In game apparatus, a pair of substantially parallel rails, a roller spanning the rails and rolling upon the same, and a friction member carried by the roller between the rails and normally out of contact with both of the latter.

17. In game apparatus, a pair of substantially parallel rails, a roller spanning the rails and rolling upon the same, a friction member carried by the roller between the rails and normally out of contact with both of the latter, and speed-retarding means carried by the friction member and actuated when the rotation of the roller falls below a predetermined speed.

18. In a game apparatus, a rail, a traveler reciprocable thereon, and scoring members disposed along said rail in the path of said traveler, each of said members having two arms adapted respectively to be engaged by the traveler when the latter is moving in opposite directions upon said rail.

19. In a game apparatus, a rail, a traveler reciprocable thereon, and bell-crank members disposed along the rail and pivoted below the top of the latter, the arms of each member being respectively in the path of the traveler when the traveler is moved in opposite directions.

20. In a game apparatus, a rail, a traveler reciprocable thereon, and members pivoted upon the rail and each presenting a portion in the path of the traveler when the latter is moving in one direction, each of said members also having a score-indicating portion adapted to be moved to an indicating position by the impact of the traveler against the aforesaid portion of the same member.

21. In game apparatus, a rail equipped with a slot extending longitudinally thereof, a traveler movable upon the rail; and scoring means pivoted in said slot and each normally presenting a portion projecting beyond the surface of the rail across the path of the traveler.

22. In game apparatus, a rail equipped with a slot extending longitudinally thereof, a traveler movable upon the rail; and scoring means pivoted in said slot, each of said scoring means comprising a relatively flat member equipped with a raised hub frictionally engaging opposite sides of said slot for affording a pivotal engagement between said member and said rail.

23. In game apparatus, a pair of parallel rails and supports for said rails including a pair of uprights each equipped with a base, a central member connecting said uprights, and auxiliary members respectively partially overlapping the central member and respectively connecting the uprights with the opposite ends of said rails.

24. In game apparatus, a rail equipped near its ends with slots extending longitudinally thereof, a traveler movable upon the rail, and scoring means pivoted respectively in the said slots and respectively movable into different positions by the movement of the traveler in opposite directions upon said rail.

25. In game apparatus, a track, a roller traveling upon the same, scoring means disposed along the track in the path of the roller and carrying indices progressively increasing in size toward the end of the track, and means for halting the roller after it has passed all of the said means.

26. In a game apparatus, a rigid track structure adapted to be placed on a table, including a pair of spaced rails and means for supporting said rails at some distance above the table, said structure being composed entirely of wood blocks.

27. In a game apparatus, a rigid track structure adapted to be placed on a table, including a pair of spaced and elevated rails, said structure being composed of wood blocks and unthreaded clamping elements for maintaining said blocks in their assembled positions.

CHARLES H. PAJEAU.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."