

May 19, 1959

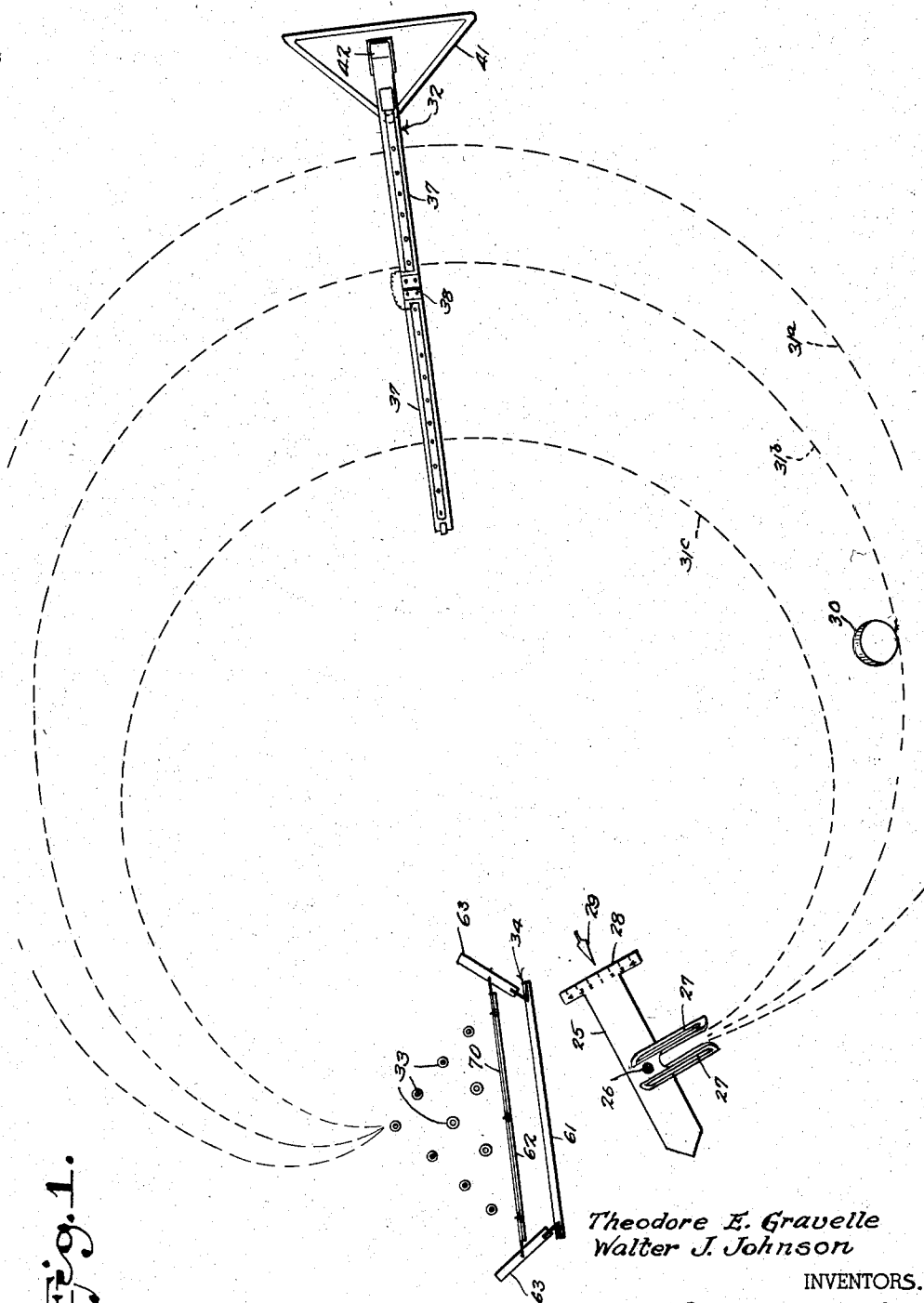
T. E. GRAVELLE ET AL

2,887,320

CIRCLE BOWLING GAME

Filed April 12, 1955

5 Sheets-Sheet 1



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Fig. 1.

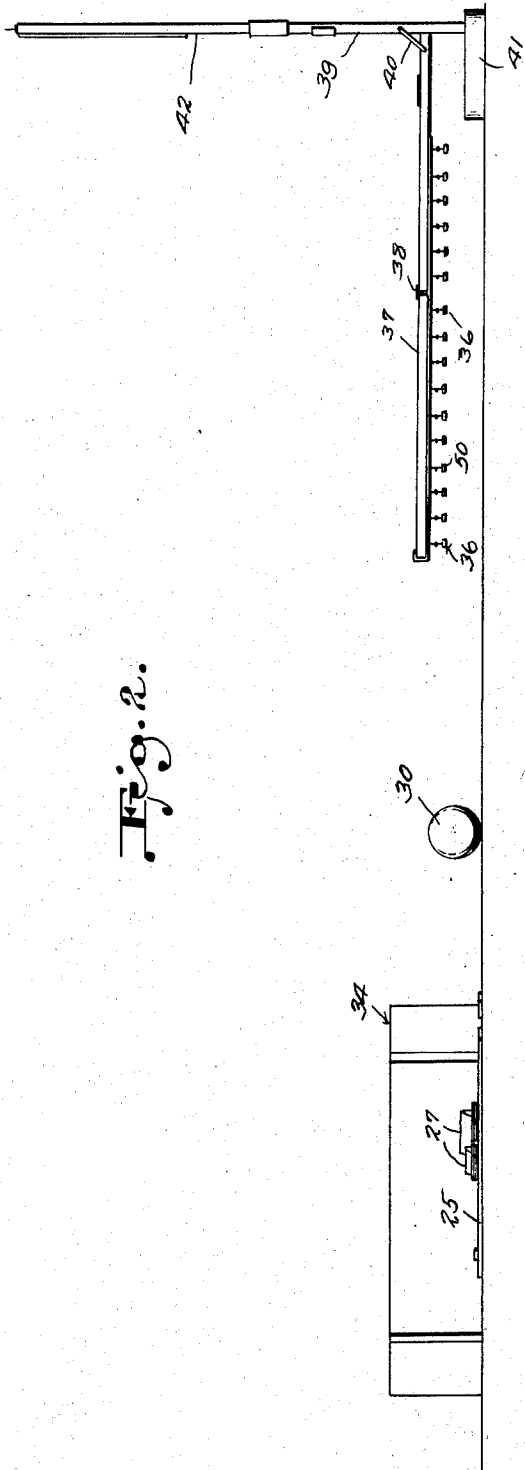


Fig. 2.

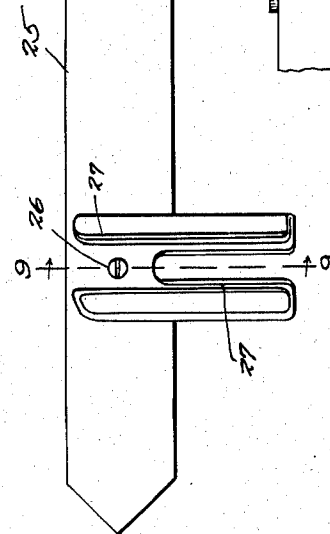


Fig. 9.

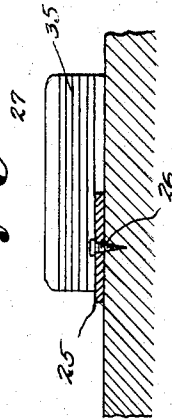
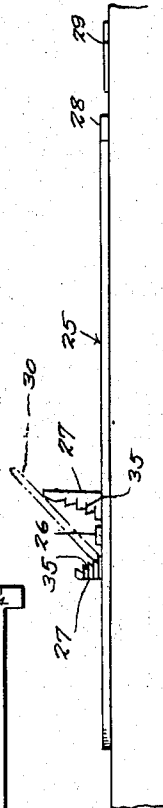


Fig. 8.



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Fig. 3.

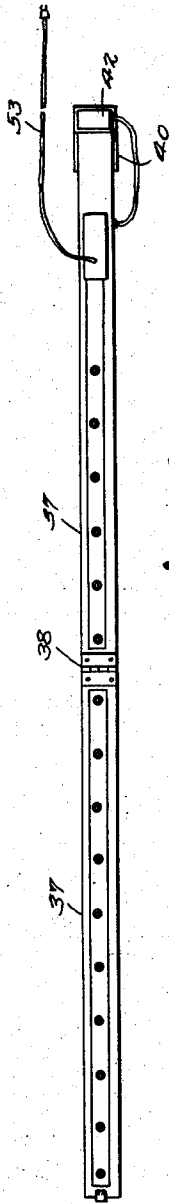


Fig. 5.

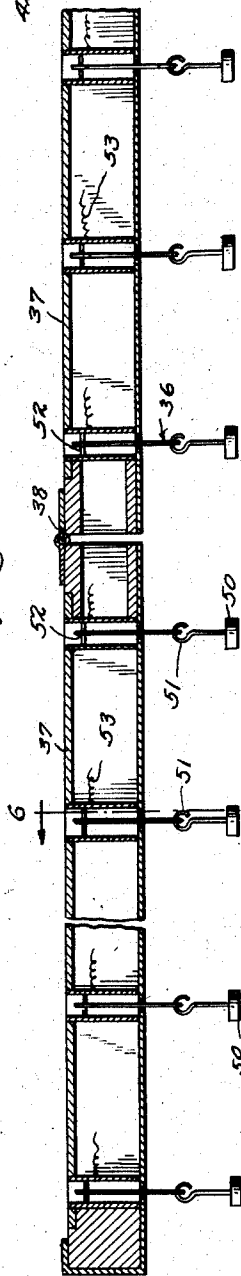


Fig. 6.

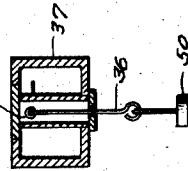
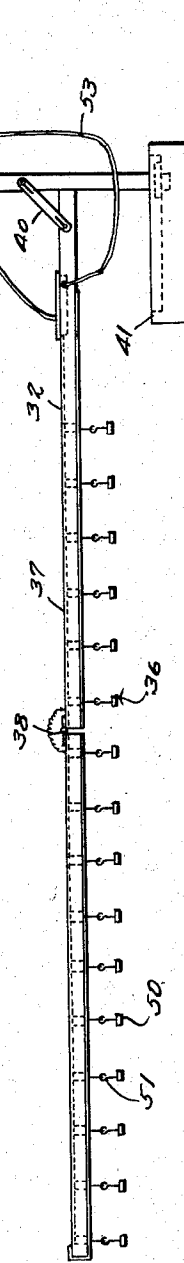


Fig. 4.



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Fig. 10.

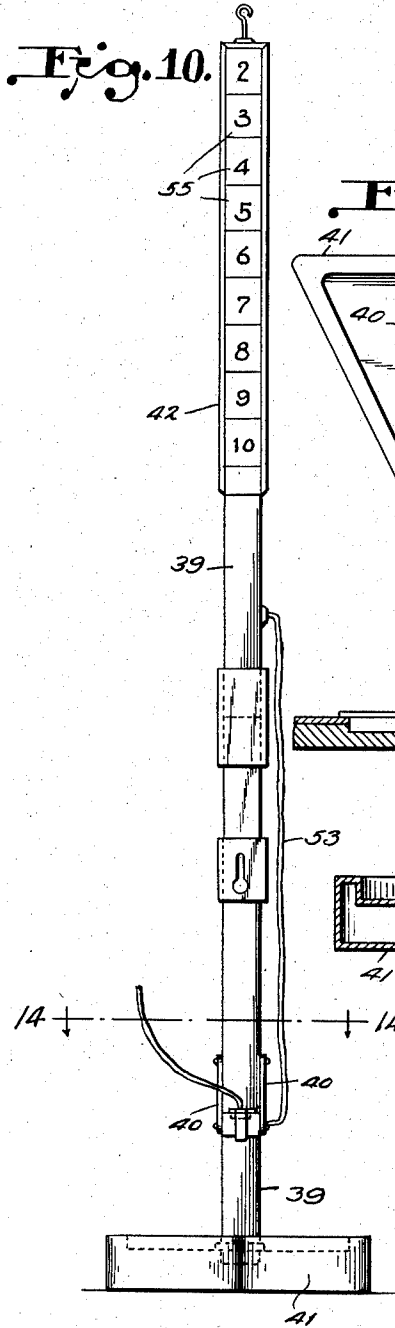


Fig. 11.

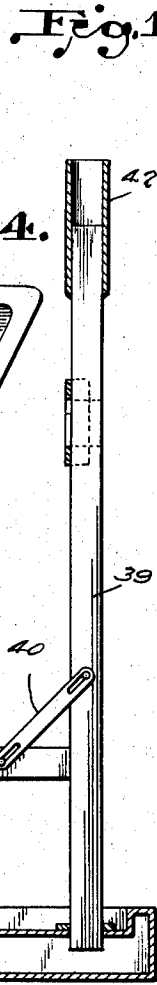


Fig. 14.

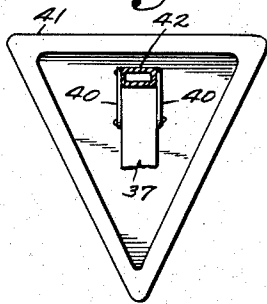


Fig. 13.

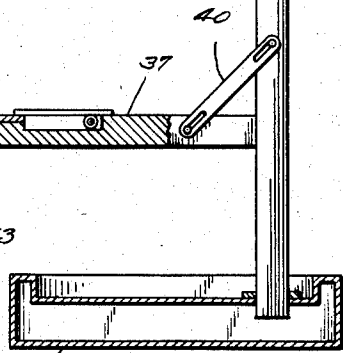
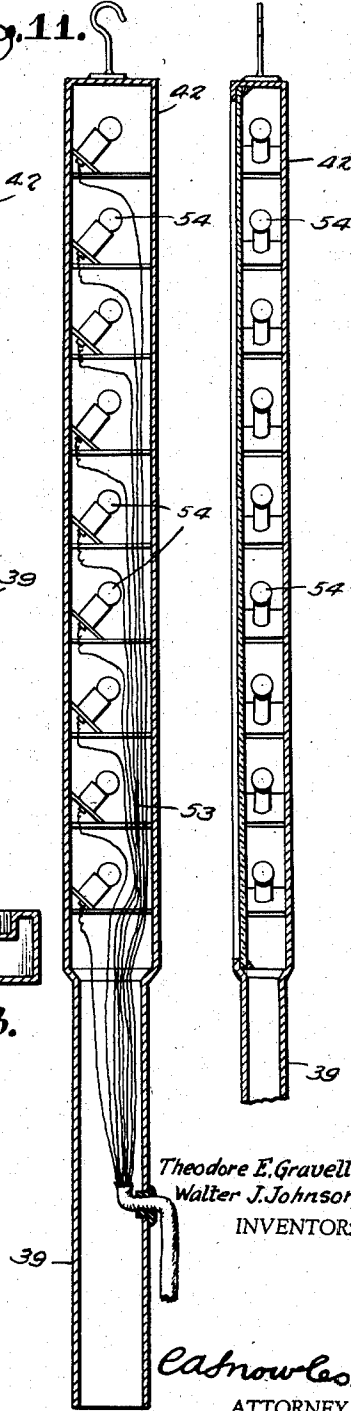


Fig. 12.



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Fig. 15.

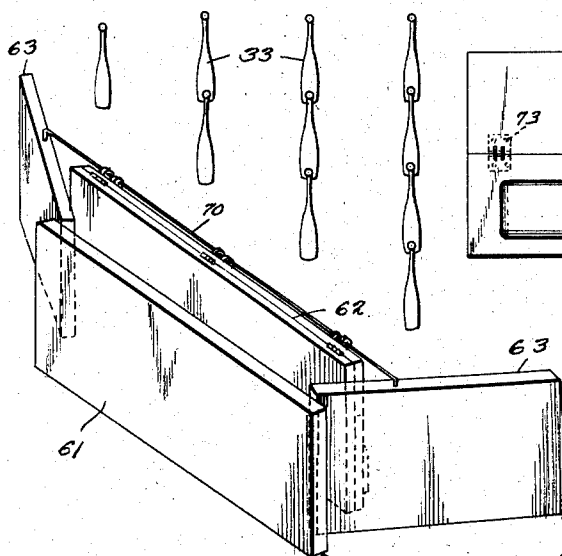


Fig. 20.

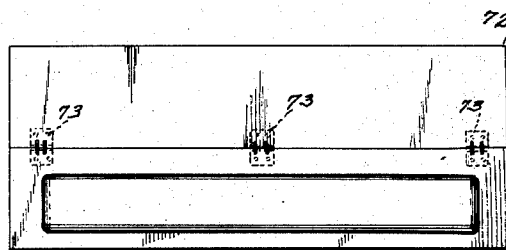


Fig. 21.

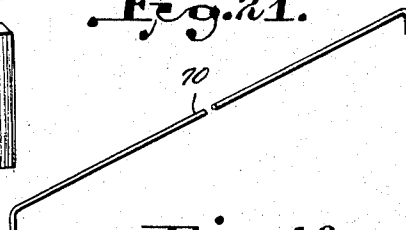


Fig. 16.

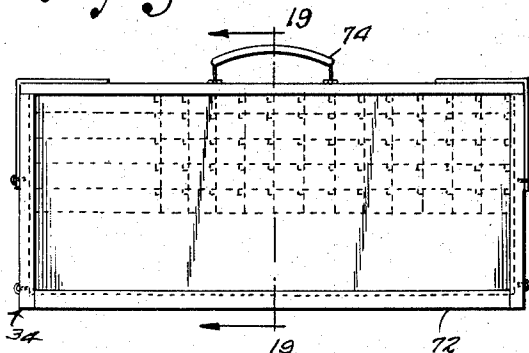


Fig. 18.

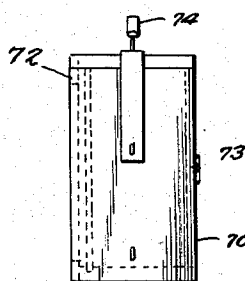


Fig. 19.

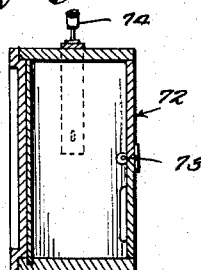
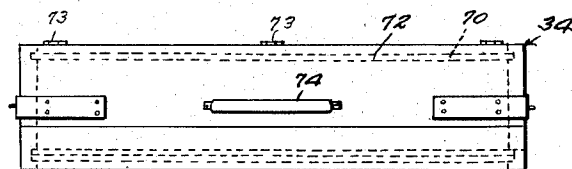


Fig. 17.



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CIRCLE BOWLING GAME

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Application April 12, 1955, Serial No. 500,734

4 Claims. (Cl. 273—126)

This invention relates to a bowling game, adapted to be played by means of a disc, which in turn travels in a circular path so that the game may be played within a small space as within the basement space of a residence, or within some other relatively large room. The expense or space required in the installation of a long straight bowling alley thus may be avoided, yet the game will require the exercise of fully as much skill as such a normal alley bowling game.

While circle games generally are known to be old, those presently known to applicant require only a modicum of skill and experience, sufficient only to cause a disc to roll in a single desired circle from a starting point to its target.

One of the primary objects of the present game is, therefore, to inject into such a game the further element of varying the circular path of the disc scientifically, not only in order to vary the target point at which it is aimed as for instance, to knock down one of several pins which alone remain upstanding after a previous bowl, but also in order, at some risk to the player but with the exercise of acquired skill, to increase the value of each pin knocked over, in aiming its path toward a greater value number on a multiple arm, to be more fully described hereinafter, which comprises an integral part of the instant invention.

Since the game is intended to be used in a relatively restricted space as above indicated, a further important object of the invention is the provision of a game composed of individual parts which are each relatively small or capable of being folded into small compass, light and easily transported and set up.

A further object of the invention is the provision of an individually designed carrying case in which all the parts thereof are gainfully employed in the setting up of the game for play.

An additional object of the invention resides in the provision of a game and game parts so arranged as to be capable of operation all from a region in the vicinity of the starting point so that the target point, or the point of impact of the disc against the pins is adjacent this region, making it relatively simple for the player to reset pins.

Still another object of the invention is the provision of a disc angling or positioning device which will constrain the disc to a relatively small number of paths and which has the further advantage of regulating such path to avoid unwanted collision with other objects in the confined space where the game is to be played, and of increasing the skill necessary for a player to consistently make a good or fair score.

Still other objects reside in the combination of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there is shown a preferred embodiment of this inventive concept.

In the drawings, which disclose one illustrative form or embodiment of the game:

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Figure 1 is a top plan view of the game in its entirety, certain portions thereof being indicated schematically, showing a representative layout.

Figure 2 is a side elevational view of the construction disclosed in Figure 1.

Figure 3 is an enlarged top plan view of a constructional detail.

Figure 4 is a side elevational view on an enlarged scale of the construction disclosed in Figure 3.

Figure 5 is a further enlarged sectional view disclosing portions of the elements of the mechanism as shown in Figure 4, together with indicative wiring for certain elements thereof.

Figure 6 is a sectional view taken substantially along the line 6—6 of Figure 5.

Figure 7 is an enlarged detail constructional view of one of the elements of the game.

Figure 8 is a side elevational view of the construction shown in Figure 7.

Figure 9 is a sectional view taken substantially along the line 9—9 of Figure 7.

Figure 10 is an enlarged front elevational view of one of the constructional details of the game.

Figure 11 is an enlarged longitudinal sectional view taken along the construction of Figure 10 as viewed in one direction.

Figure 12 is a front sectional view taken transversely of the view of Figure 11.

Figure 13 is a side view partially in section and partially in elevation disclosing portions of the structure of Figure 10, parts thereof being broken away.

Figure 14 is a sectional view taken substantially along the line 14—14 of Figure 10 as viewed in the direction indicated by the arrows.

Figure 15 is a perspective view, certain concealed parts thereof being indicated in dotted lines, showing a further element of the game, the pins thereof being positioned for striking by the disc.

Figure 16 is a side view partially in section and partially in elevation of the carrying case for the apparatus, and the components thereof.

Figure 17 is a top plan view of the structure of Figure 16.

Figure 18 is an end elevational view of the device of Figure 16.

Figure 19 is a sectional view taken substantially along the line 19—19 of Figure 16.

Figure 20 is a side elevational view of the carrying case, the opposite side of which is disclosed in Figure 16; and

Figure 21 is an enlarged perspective view, partially broken away, of a further constructional detail.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, the device of this application is provided with a starting gate 25 which includes a base plate and which is pivotally mounted as by means of a pivot 26 for suitable rotation. The gate 25 has mounted thereon a pair of transversely extending vertical side walls 27. The starting gate is also provided with an indicator or gauge 28 adapted to be juxtaposed and varied with relation to a fixed starting gate or pointer 29 for governing the trajectory and circular passage of a disc member 30, adapted to be started from between the side walls 27 and travel one of a plurality of relatively circular paths 31a, 31b and 31c as may be desired, and set up in a manner to be more fully described hereinafter.

The construction also includes an indicator means 32 which will, in a measure, govern and indicate the path of the rolling disc 30, which is then adapted to complete its circle and strike a plurality of pins 33. Pins 33 are adapted to be set before a backstop member

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34, which is positioned immediately adjacent the starting gate so that upon completion of its circular path of rotation, disc 30 will not only indicate the score obtained, but will strike if suitably propelled, a certain number of pins, and then engage the backstop portion immediately adjacent the starting gate, in such manner that the pins may be reset and the disc reutilized substantially immediately.

Referring now to the parts in detail, the bowl or disc 30, which may be comprised of wood, plastic, metal or any other suitable material, is adapted to be positioned between the side walls 27 of the starting gate member 25. It will be noticed that each of these side walls is provided with a plurality of serrations 35 in such manner that the disc may be suitably inclined to traverse a suitable substantially circular path. It is also noted that the inner side wall 27 is slightly higher than the outside wall, in order to provide a suitable inclination for the disc. By varying the position of the disc 30 on the serrations 35 the path of travel may be suitably varied, in such manner that the disc or bowl will follow a certain circumscribed arc as previously indicated, passing between and striking certain contact means 36 carried by a hinged horizontal arm 37, the central hinge thereof being indicated at 38, which arm in turn is supported on an upright 39, by a link construction 40. The upright 39 is adapted to be supported on a suitable triangular base 41, although this shape is optional and not mandatory, and carries in vertical position indicator column 42.

As best shown in Figures 5 and 6, each of the contact members is comprised of a disc 50, supported on a hook 51, which in turn is pivotally connected to an illuminating member 52, contained within the arm 37, and connected by suitable wires 53 to a selected one of a plurality of illuminating bulbs 54, contained within the scoring column 42. As best shown in Figure 10, each of these bulbs is confronted by a translucent or transparent panel 55 bearing a number thereon, so that in accordance with the path of the bowl an appropriate score may be indicated. It will thus be apparent that each of the impacting or contact members 50, when struck by a bowl, will indicate a corresponding illuminated number on the scoring column 42, which may in turn be employed to determine the individual bowler's score.

After the bowl 30 has passed beneath the scoring arm and added its appropriate score, it is adapted to continue on its circular path to strike the pins 33, which are arranged in the customary tenpin formation. The number of pins knocked down further determines the score of the player.

A backstop member generally indicated at 34 is also provided, and comprises basically the carrying case for the device, which includes a back wall 61, a front wall 62, and two side diverging walls 63. In the playing position of the game, this backstop is arranged as best shown in Figures 1 and 15, the diverging wings serving to deflect the disc back into the playing field, in readily accessible position for the operator.

In the expanded or playing position, the top of each side wall 63 is provided with a suitable aperture not shown, adapted to be connected by a metallic rod 70, (see Figure 21) which retains the device in expanded position.

In the playing position the case, generally indicated at 72, is adapted to retain the scoring indicator columns as indicated in dotted lines in Figure 16, on one side, and is provided with a plurality of hinges 73 on one side whereby the apparatus may be readily withdrawn as desired.

A carrying handle 74 is also provided, and it will be readily understood that the entire apparatus may be packed within the traveling case as desired, and that upon disassembly of the case, which includes all of the elements of the game, the case may be readily employed

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in its previously described disassembled position as a backstop 34 as previously mentioned.

From the foregoing, the operation of the game should now be readily apparent. An individual player will take his position at the starting gate 25 with a disc 30 resting between the arms or fingers 27. He then may decide whether he will attempt to cause the disc to follow the median path or a path close to the median path, and thereby accept a low value for individual pins, but with a greater chance of striking and knocking down all the pins, or if he will risk missing a finger altogether and attempt to cause the disc to follow such a path whereby it may strike a finger and effect a value indication, which is of the highest value for the individual pin, but which except with considerable skill runs the risk of not striking down any pins.

He may then choose a number on the indicator 28, and offset or pivot the starting gate at a position which he deems best for his particular manner of force of shooting. He then in turn applies to the disc such force as his determination of the risks involves, and as his experience and skill dictate. The disc rolls in the path which a combination of its initial inclination and scale direction, plus the applied force, prescribed for it, and as it passes under the cross bar 37 will strike and swing upwardly one of the pendant members 50, which will light and relight on each apex of a pendulum swing its relative value on the indicator member 42. The player may thus multiply the number of pins bowled over by this additionally acquired value point and record it opposite his name on the scoreboard.

From the foregoing it will now be seen that there is herein provided an improved circular bowling game, which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be considered merely as illustrative, and not in a limiting sense.

We claim:

1. A bowling game wherein a flattened disc rolls about a confined circular path on a smooth surface to knock down a plurality of standing pins, comprising means to indicate a scoring value common to all pins in accordance with the path of the disc, a plurality of oscillatably mounted selector devices disposed radially of, and generally crosswise of the disc's path or paths, each operatively connected to a corresponding indicating means, said mounting of said selector devices being such as to permit oscillating movement to continue for a substantial period of time, a plurality of lights each associated with a corresponding indicating means to be actuated thereby and each valued the more highly the greater its departure from the median path of the disc, and disc-positioning means to correctly incline the disc at starting, to follow one of a plurality of circular paths depending upon the force and skill applied to the disc to actuate a value selector device, and thereby to actuate a selector device which lies in the particular selected paths and its associated value indicator in advance of reaching the pins, each of said lights including a switch associated with one of said selector devices in such manner as to separately make and break its associated light circuit in response to oscillating movement of a selector device when struck by a disc.

2. A game as set forth in claim 1, the selector devices comprising resilient fingers, a cross bar whereon the fingers are pendently mounted, said cross bar being foldable, a support to maintain said cross bar elevated above the floor or level surface sufficient to avoid contact by the disc, except with an individual pendant finger.

3. A game as set forth in claim 1, wherein the disc-positioning means include two parallel walls, slanted to-

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wards the center of the disc's precontrolled circular path, and spaced apart a distance not appreciably greater than the thickness of the disc itself.

4. A game as described in claim 1, which includes a pivoted starting gate with which the disc-positioning means is bodily movable, to vary the tangency of its parallel walls relative to a desired circular path of the disc, said gate having a scale on the inner extreme end thereof, and a stationary pointer coacting therewith.

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