June 20, 1939. D. E. HOOKER 2,163,122

BALL ROLLING GAME OBSTACLE

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Fig. 1.

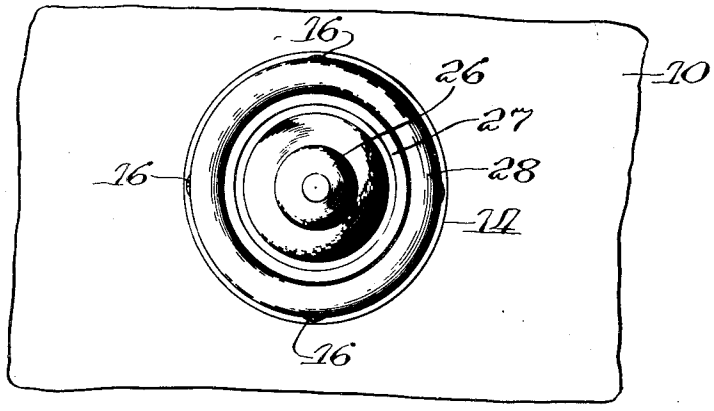
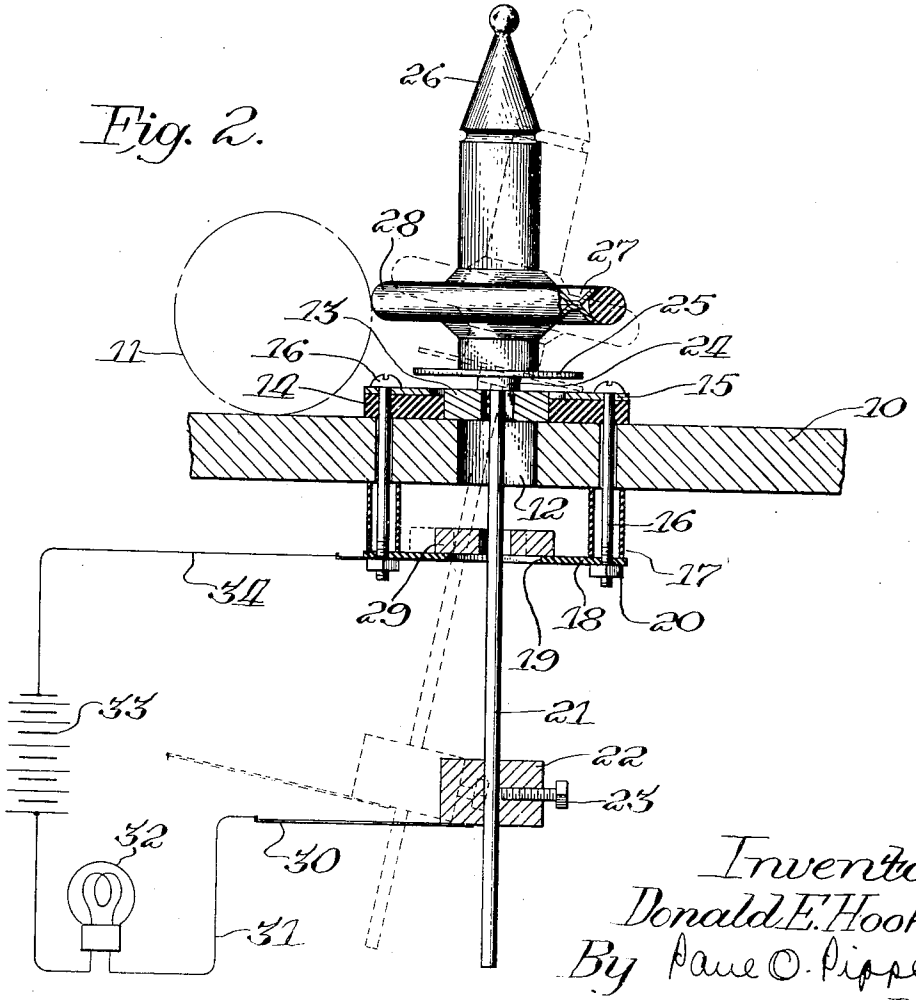


Fig. 2.



Inventor
Donald E. Hooker
By Paul O. Pippel
Atty.

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BALL ROLLING GAME OBSTACLE

Donald E. Hooker, Chicago, Ill., assignor to Raymond T. Moloney, Chicago, Ill.

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9 Claims. (Cl. 273—118)

The invention relates to a ball rolling game of the type having a table providing a substantially horizontal surface over which a ball is rollable to engage score value obstacles; the invention more particularly relating to an improved bumper type of obstacle member for such games.

Yieldable bumper obstacles have heretofore been used on these game tables the same when bumped by a rolling ball acting to close a normally open switch in a circuit including score indicating lights or other form of score register mechanism. In the present invention, the bumper assumes the form of a freely mounted bobber or vibrator which is believed to be entirely novel.

The main object of the invention is to provide an improved bumper obstacle for use with ball rolling games.

Another object is to provide an improved manner of carrying the obstacle on the game table.

Still another object of the invention is to provide a novel circuit closer associated with the bumper.

Another object is to provide improved brake means for the bumper to control its vibratory action upon being bumped by a rolling ball.

Also it is an object to provide means properly to counterbalance the bobber obstacle and provide for varying its center of gravity to maintain the best vibratory action.

Other important objects no doubt will become apparent to those skilled in this art as the disclosure is more fully made.

Briefly, these desirable objects are attained in a ball rolling game having a substantially horizontal table forming a ball rolling surface, said table having a vertical opening therethrough, in which opening is pendantly carried a long stem. Above the table the stem carries an ornamental weight and a resilient bumper ring adapted to be bumped by a rolling ball to tilt or bob or vibrate the unit, whereupon a conductor contact disk is tilted to contact a complementary conductor member for momentarily closing a circuit to operate score indicating or registering means. The lower end of the stem below the table carries an adjustably mounted counterweight which is used to vary the position of the center of gravity of the bobber obstacle, as desired. A brake means is associated with the stem below the table to control the vibratory action of the bobber obstacle. So much will suffice in presenting a general understanding of the structure of the invention, which is illustrated in one practicable form in the accompanying sheet of drawings, wherein:

Figure 1 is a general plan view of the improved bumper obstacle, a fragmentary portion of the game table also being shown; and,

Figure 2 is a central vertical, cross sectional view through the obstacle carried in the table, a typical, simplified, wiring diagram also being shown.

The game board or table which is made of wood is shown at 10, the same being horizontally disposed or slightly inclined from the horizontal so that a ball indicated at 11 may roll by gravity thereover as is usual in these ball rolling games.

The table is formed with a vertical opening 12 and laid on top of the table to surround said opening is a metal washer or collar 13, the same in turn being surrounded by a larger insulated washer or disk 14 laid flat on the table, as shown. On top of the washer 14 is a metal plate 15 and four vertical bolts 16 are passed downwardly therethrough and through the washer 14 and table 10, as shown, said bolts below the table being surrounded by vertical, insulated, spacer sleeves 17 against the lower ends of which is placed an insulated disk 18 having a hole 19 disposed under the hole 12. This plate or disk 19 is clamped against the sleeves 17 by the nuts 20 on the lower threaded ends of the screw bolts 16, as shown.

The collar 13 has a vertical opening as shown and passed downwardly therethrough is a long vertical, stem, rod or tail member 21, carrying a weight block 22 at its lower end by means of a clamp screw 23 in such a manner that the block 22 is positionable along the length of the stem 21 in an obvious manner to regulate the center of gravity of the bobber unit. The upper end of said stem is formed with a disk or head 24 just larger than the diameter of the hole in the collar 13 so that the stem 21 must be held in the position shown, said head 24 including thereabove a relatively large circular metal disk portion 25 of a size to overhang the plate 15, as shown. Above this disk 25 is integrally, or otherwise carried an upright ornamental spindle 26 acting as a counterweight and including in its mid-portion above the disk 25 an annulus 27 of relatively large diameter having its periphery formed to hold a rubber bumper ring 28 disposed horizontally at the best level to be bumped by the rolling ball 11. Thus it can be seen a bobber type of bumper obstacle is provided for a ball rolling game in which the obstacle is loosely and tiltably suspended with a weight carried thereby below the table, a counterweight disposed thereon above the table and bumper ring 28 and con-

tact disk 25 immediately above the table and between the weights.

Resting on the plate 18 is an apertured metal washer 29 through which the stem 21 is loosely passed, said washer resting loosely on the plate 18, as shown. This washer acts as a weight to stabilize the mounting and brake the movement of the bobber unit when it is hit by a ball.

A flat spring conductor leader 30 of some length is soldered to the block 22 and has connected thereto a wire 31 in which is some suitable electrical device 32 used for score indicating or registering purposes; the device 32 by way of illustration being a lamp, although some suitable electromagnetic relay may be substituted as desired. A battery 33, serving as a source of energy, is in the circuit and a wire 34 running therefrom to a bolt 16 completes the circuit, as shown.

In operation it will be understood that the obstacle unit stands normally in the full line position of Figure 2 with the contact disk 25 disposed over and in parallelism with the complementary contact member 15 carried by the table 10. The collar 24 rests on the collar 13 the small diameter collar 24 serving as the pivot member for the obstacle. The circuit 31, 34 is, of course, open because the disks 15 and 25 are gapped apart. By adjusting the weight block 22 on the stem or tail 21 the center of gravity of the obstacle unit is located coincident with the point of pivotal movement and as a consequence it is impossible for an unscrupulous player to shake the cabinet containing the game and establish contacts between the disks 15, 24. As a result, in a closed cabinet with the usual glass top, it is possible to operate the switch and obstacle only upon contact thereof by a ball. The game to this extent is foolproof. By using different thicknesses of brake washers 29 the desired control or regulation of vibrating action of the obstacle can be obtained in an obvious manner. When a ball 11 now hits or bumps the rubber ring 28 of the unit, the obstacle is tilted to the dotted line position shown, causing the disks 15 and 25 to contact and momentarily close the electrical circuit to operate the score indicator or lamp 32. The obstacle because of its pendant suspension may bob or vibrate back and forth several times, repeatedly closing the circuit to augment player appeal and interest. The weights 22 and 26 serve to restore the bumper unit eventually to its normal position.

It can now be seen that an improved bumper obstacle unit has been provided for ball rolling games in accordance with the objects of the invention heretofore recited.

The intention is to cover all such changes and modifications of the example illustrated for the sake of the disclosure which do not in material respects constitute departures from the spirit and scope of the invention.

What is claimed is:

1. For a ball rolling game having a substantially horizontal table over which a ball is rollable and having an opening formed therein, an upright freely mounted tiltable obstacle member carried by the table in said opening for universal tilting movement, and a bumper annulus included in the member over the table adapted to be engaged by a ball rolling on the table to tilt the member.

2. For a ball rolling game having a substantially horizontal table over which a ball is rollable and having an opening formed therein, an upright freely mounted tiltable obstacle member carried by the table in said opening for universal tilting movement, and a bumper annulus included in the member over the table adapted to be engaged by a ball rolling on the table to tilt the member, said member including a depending stem extending a substantial distance below the table.

3. For a ball rolling game having a substantially horizontal table over which a ball is rollable and having an opening formed therein, an upright freely mounted tiltable obstacle member carried by the table in said opening for universal tilting movement, a resilient part carried by the member over the table to be engaged by a ball rolling on the table to tilt the member, said member having a depending stem passed through and disposed below the table, and a weight adjustably carried on the stem to adjust the center of gravity of the member.

4. For a ball rolling game having a substantially horizontal table over which a ball is rollable and having an opening formed therein, an upright freely mounted tiltable obstacle member carried by the table in said opening, a resilient part carried by the member over the table to be engaged by a ball rolling on the table to tilt the member, said member having a depending stem passed through and disposed below the table, a support carried below the table and substantially parallel therewith and having an opening through which the stem may swing with the member, and means carried on the support and operatively associated with the stem to apply a braking action on the tilting movement of the member.

5. For a ball rolling game having a substantially horizontal table over which a ball is rollable and having an opening formed therein, an upright freely mounted tiltable obstacle member carried by the table in said opening, a resilient part carried by the member over the table to be engaged by a ball rolling on the table to tilt the member, said member having a depending stem passed through and disposed below the table, a weight carried on the stem at a point a substantial distance below the table, and a weight included in the member and disposed above said resilient part in such a manner that the two weights serve to counterbalance each other.

6. For a ball rolling game having a substantially horizontally disposed table over which a ball is rollable and having an opening formed therein, a collar carried on the table around the opening, a second collar loosely resting on the first collar and having a pendant stem passed through the first collar, a horizontal disk disposed over the second collar, an upright portion including a part to be bumped by a ball rolling on the table, said stem, second collar, disk and upright portion being a functionally integral unit tiltably supported on the table, and means operatively associated with said stem to adjust the center of gravity of said unit.

7. For a ball rolling game having a substantially horizontally disposed table over which a ball is rollable and having an opening formed therein, a collar carried on the table around the opening, a second collar loosely resting on the first collar and having a pendant stem passed through the first collar, a horizontal disk disposed over the second collar, an upright portion including a part to be bumped by a ball rolling on the table, said stem, second collar, disk and upright portion being a functionally integral unit tiltably supported on the table, and means supported below the table and operatively associated

with the stem to apply a braking action to the unit and control the tilting action thereof.

8. For a ball rolling game having a substantially horizontally disposed table over which a ball is rollable and having an opening formed therein, a collar carried on the table around the opening, a second collar loosely resting on the first collar and having a pendant stem passed through the first collar, a horizontal disk disposed over the second collar, an upright portion including a part to be bumped by a ball rolling on the table, said stem, second collar, disk and upright portion being a functionally integral unit tiltably supported on the table, and a conductor member supported on the table and disposed in a normally open electric circuit which also includes the stem, second collar and disk, said unit when ball tilted causing the disk to engage the conductor member and momentarily close the circuit.

9. For a ball rolling game having a substantially horizontally disposed insulated table over which a ball is rollable and having an opening formed therethrough, a freely rockable bobber obstacle loosely carried in the opening having a portion above the table to be ball engaged and a counterbalancing portion below the table, a conductor disposed on the table in a normally open electric circuit, and conductor means included in the obstacle movable to engage said conductor when the bobber is rocked to close the circuit, the bobber having portions included in said circuit.

DONALD E. HOOKER.