July 17, 1928.

1,677,557

R. JOHNSON

INDOOR GOLF GAME

Filed Nov. 19, 1927

2 Sheets-Sheet 1

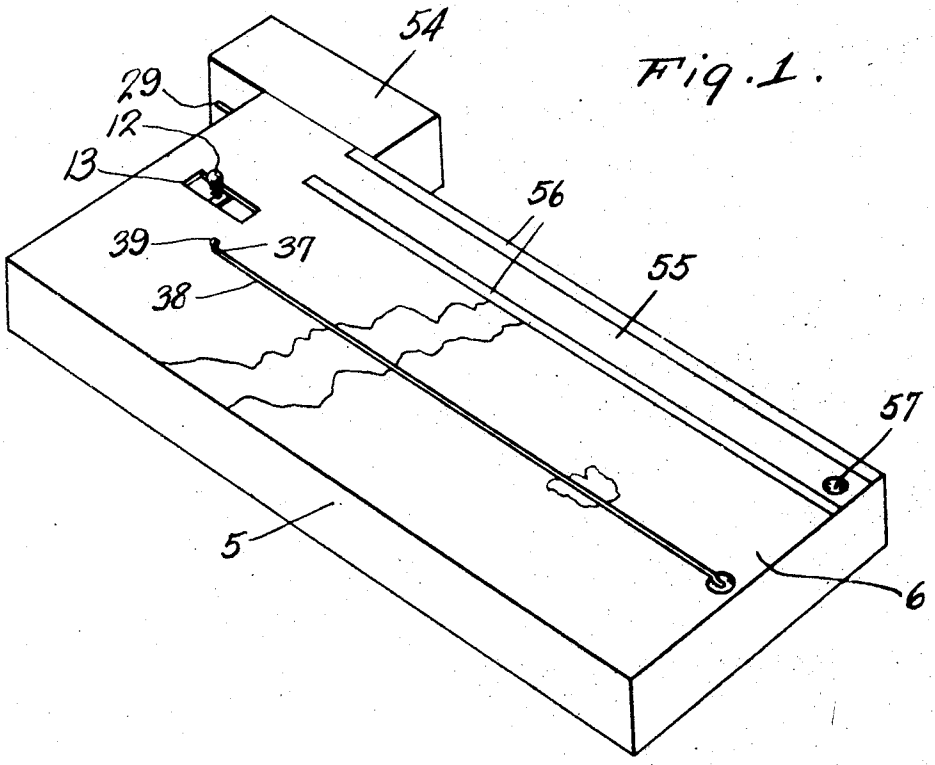


Fig. 1.

Fig. 2.

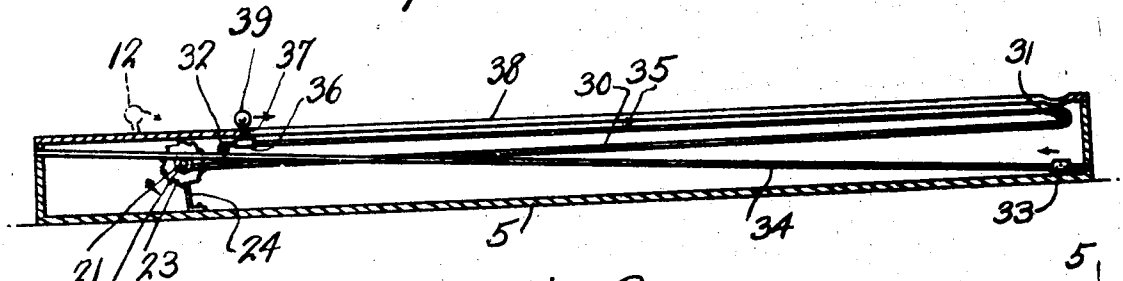
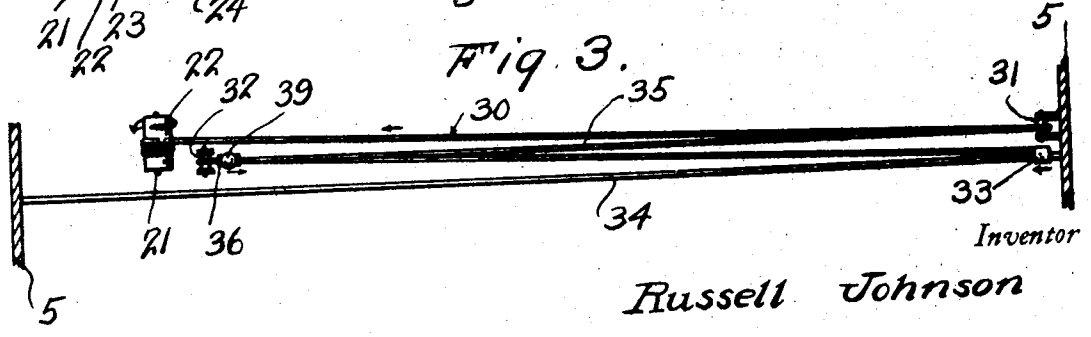


Fig. 3.



Inventor

Russell Johnson

By Clarence A. O'Brien

Attorney

July 17, 1928. 1,677,557

R. JOHNSON

INDOOR GOLF GAME

Filed Nov. 19, 1927 2 Sheets-Sheet 2

Fig. 4.

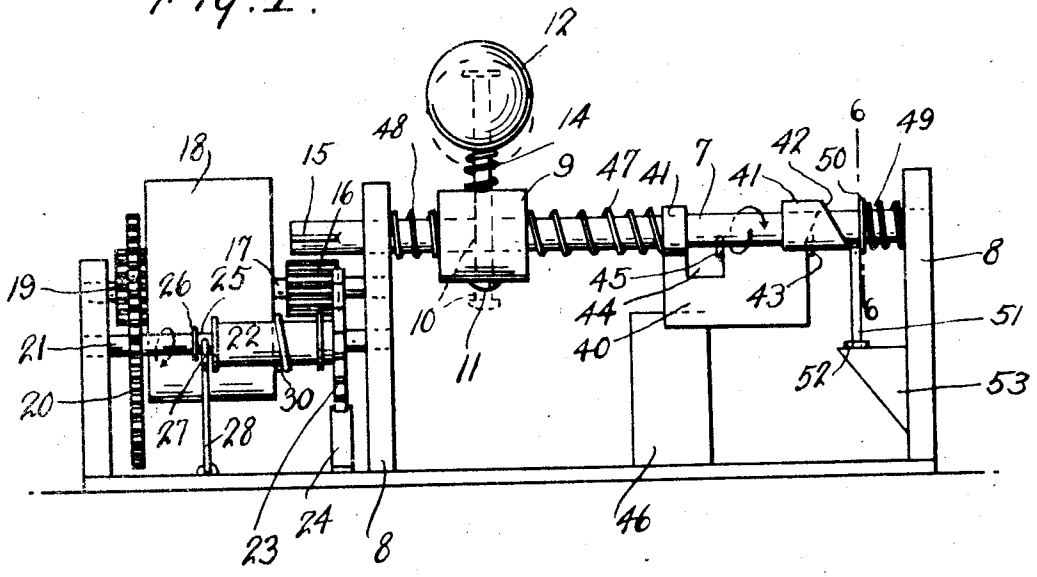


Fig. 5.

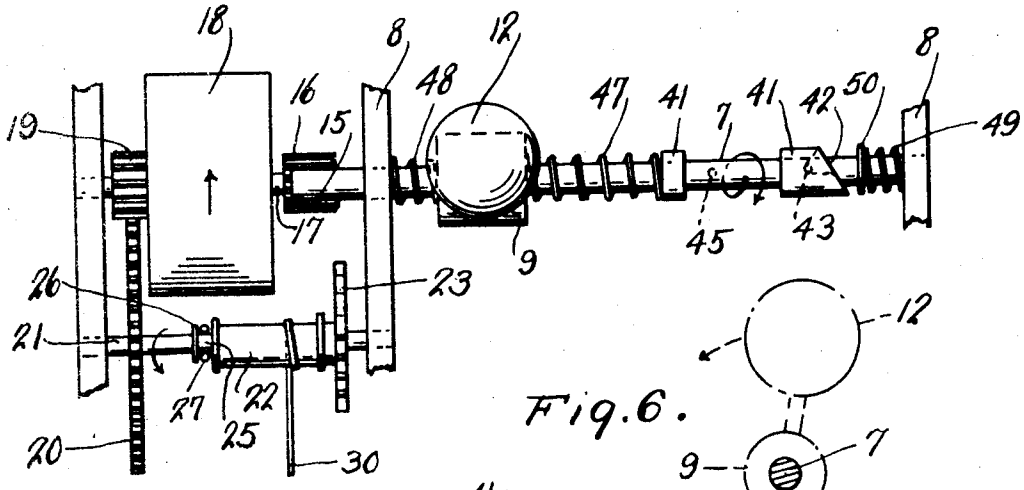
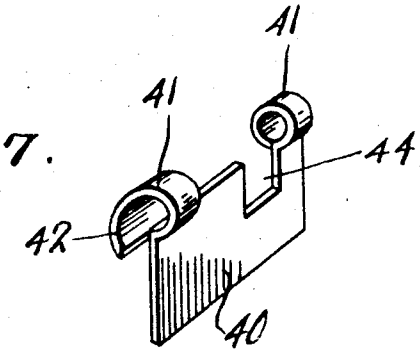


Fig. 6.

Fig. 7.



Inventor

Russell Johnson

By Clarence O'Brien

Attorney

Patented July 17, 1928. 1,677,557

UNITED STATES PATENT OFFICE.

RUSSELL JOHNSON, OF PITTSBURG, KANSAS.

INDOOR GOLF GAME.

Application filed November 19, 1927. Serial No. 234,480.

The present invention relates to game devices and has for an object to provide an apparatus of this character simulating the playing of a game of golf employing the use of a regulation golf ball adapted to be struck in the usual manner by regulation golf clubs, the ball being attached to a rotatable shaft, which upon being struck by the club will cause the rotation of the shaft and through its connection with a miniature ball arranged for movement longitudinally on the game board will operate to move the latter a predetermined distance toward the opposite end of the board at which the hole or cup within which the ball is to be pocketed is located.

Another object of the invention is to provide means for retaining the miniature ball at the point to which it has been moved through the actuation of the shaft until the same has been further advanced by another stroke upon the regulation or master ball whereby to cause the miniature ball to progress in a regular manner toward the cup and to also provide for the return of the miniature ball to its original position actuated through a weighted connection and control by a releasing mechanism.

A still further object is to mount the master ball for rotation with the shaft and to provide for the return of the ball to an upwardly extending position with respect to the shaft and the delivery of a stroke against the ball.

Another object is to provide a game device of this character of simple and practical construction, neat and attractive in appearance, which enables the player to employ a natural golf stroke in playing the game and thus serve as a means for the player to improve his swinging motion, which is relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the special construction and combination of the various elements comprising the invention, reference being had to the accompanying drawings forming a part hereof, wherein:

Figure 1 is a perspective view showing the housing or container for the game mechanism,

Figure 2 is a vertical longitudinal sectional view therethrough,

Figure 3 is a top plan view showing the manner of mounting the cable controlling the movement of the miniature ball.

Figure 4 is an end elevational view,

Figure 5 is a top plan view illustrating the gear connection between the shaft and the cable drum,

Figure 6 is a detail of the stop for retaining the master ball in a substantially upwardly extending position, and

Figure 7 is a perspective view of the control plate limiting the movement of the shaft to a single revolution of each driving stroke upon the ball.

Referring to the drawings in detail, the invention comprises a substantially rectangular housing or container 5 for the mechanism of the apparatus with the upper surface thereof shown at 6 comprising the playing surface for the game and which may be decorated in any suitable manner in the simulation of the fairway of a golf course.

Arranged within the housing is a transversely disposed shaft 7 suitably journaled for rotation in support 8 and having an enlargement 9 formed intermediate its ends, an opening is formed transversely through the enlargement through which a pin 10 is slidably carried and extended at opposite sides thereof. On one end of the pin is formed a head 11 and at the opposite end is secured a ball 12 preferably similar in size to a regulation golf ball. The ball 12 extends upwardly above the surface 6 of the housing through the longitudinally extending slotted opening 13. A coil spring 14 is carried on the pin 10 beneath the ball adapted to normally retain the ball in an outwardly extended position with respect to the shaft.

At one end of the shaft 7 is arranged a tooth 15 adapted through rotation of the shaft to engage a gear wheel 16 mounted on a counter shaft 17 and on which is also arranged a fly wheel 18 and a second gear 19. The gear 19 is in engagement with the gear wheel 20 mounted on a shaft 21 on which is also mounted a drum 22 keyed for rotation with said shaft and adapted for sliding longitudinal movement thereon. One end of the drum is provided with a ratchet wheel 23 engaged by a pawl 24 to prevent rotation of the drum in one direction.

The opposite end of the drum is provided with a collar 25 on the outer end of which is formed a flange 26, the collar between the

flange and the end of the drum being adapted to receive the warped end 27 formed on the angular end 28 of a rock shaft, the opposite end of which is provided with an operating lever 29.

A cable 30 is connected at one end to the drum for winding thereabout and extends in a direction toward the opposite end of the housing about a roller 31 and then extends beneath the upper surface 6 in parallel relation therewith in a direction toward the drum and then extend about a roller 32 back again toward the end of the housing provided with the roller 31 where the opposite end of the cable is attached to a weight 33. The weight is slidably mounted on an inclined guide 34 arranged within the housing and inclining in a direction upwardly toward the end thereof at which the drum 22 is mounted.

On the section of the cable disposed in parallel relation with the top surface 6, as indicated at 35 is mounted a carrier 36 having a stem 37 extending upwardly therefrom through a longitudinally extending slotted opening 38 formed in the surface of the housing with a miniature ball 39 mounted on the upper end of the stem.

Upon the shaft 7 is freely mounted a plate 40 having a pair of extensions formed along one edge and arranged to constitute bearings 41 arranged about the shaft whereby to support the plate, the outer edge of one of the bearings 41 being arranged in the form of a cam 42 adapted for engagement by a pin 43 extending laterally from the shaft and adapted through the rotation of the shaft to ride upon the edge of the bearing forming the cam 42 whereby to cause the longitudinal movement of the plate 40 with respect to the shaft.

The edge of the plate 40 adjacent the shaft 7 has a portion cut out therefrom as indicated at 44 through which a pin 45 extending laterally from the shaft may pass during the rotation thereof. Extending upwardly from the base of the housing is a stop 46 adapted to engage one side of the plate 40 whereby to prevent rotation of the plate with the shaft.

A coil spring 47 is carried on the shaft disposed between one side of the enlargement 9 and one end of the plate 40 as to maintain the cam 42 on that one end of the plate in engagement with the pin 43. A coil spring 48 is also mounted on the shaft in engagement with the opposite edge of the enlargement 9 and the adjacent bearing support 8. Another coil spring 49 is arranged on the shaft at the opposite end thereof with one end engaging the bearing support 8 and its opposite end engaging a collar 50 formed on the shaft.

A flexible arm 51 extends radially from the shaft arranged with its outer end to engage a shoulder 52 on a bracket 53 attached to the support 8, the engagement of the arm with the shoulder operating to yieldably restrain the movement of the shaft so as to retain the ball 12 in an upwardly extended position to prevent the same from swinging downwardly by reason of its own weight, as clearly illustrated in Figure 6 of the drawing.

An extension 54 is formed at one side of the housing 5 adjacent the end thereof at which the ball 12 is mounted to constitute a platform on which the player may stand in position for striking the ball.

On the upper surface of the housing may also be arranged a runway 55 constituting a putting surface with longitudinally extending grooves 56 along each side to form alleys, the runway having a cup 57 recessed in one end thereof.

In the operation of the device upon striking the ball 12 the shaft 7 will be caused to rotate, thereby setting the gears 16, 19 and 20 in motion through the engagement thereof with the tooth 15 and causing the winding of the drum 22 in a direction as shown by the arrows in Figures 2 and 3 of the drawings thereby resulting in moving the miniature ball 39 a predetermined distance along the upper surface 6 of the housing. This movement also operates to move the weight 33 upwardly along its guide 34, the weight being prevented from causing the rearward movement of the ball 29 by the engagement of the ratchet wheel 23 with the pawl 24.

Each stroke against the ball 12 operates through the plate 40 to result in a single complete rotation of the shaft 7 by reason of the pin 45 engaging the side of the plate upon the completion of such revolution, the pin 43 operating against the cam 42 in the meantime moving the plate 40 longitudinally along the shaft so as to bring the plate in position for engagement by the pin 45. Upon the completion of the revolution of the shaft the pin 43 will ride over the edge of the cam permitting the spring 47 to return the plate 40 to its original position permitting the pin 45 to pass through the cut out portion 44 of the plate and thus permit the ready rotation of the shaft upon the next driving stroke.

The springs 47, 48 and 49 enable the shaft 7 to yieldably slide within the bearings 8 so that should the head of the golf club strike the ball 12 at either side a limited movement of the shaft will be permitted to offset the force of such blow. The springs at each end of the shaft serve to center the ball above the slotted opening 13.

The spring 14 is provided to yieldably retain the ball 12 in an upwardly extended position above the surface 6 of the housing and enables the ball to yield to a blow delivered from above the same and thus release

the shaft of the force of a blow struck downwardly upon the ball.

As soon as the miniature ball 39 reaches the farthermost end of the housing during the progress of the same, the same may be returned to its original position by releasing the pawl 24 from the ratchet 23 by means of the operating lever 29 whereupon the weight 33 will be permitted to slide downwardly along the guide 34 and thus draw the ball rearwardly to its original position.

It will be understood that while the shaft 7 is limited to a single complete rotation with the stroke against the ball, there is no restraining action upon the miniature ball 39, except the weight 33 and the friction created through the geared connection. Consequently the movement of the ball 39 will be gradual until the force imparted thereto is spent whereupon the same will come to stop. The fly wheel 18 mounted on the counter shaft 17 will facilitate the smooth gradual movement of the ball 39.

It is obvious that the invention is susceptible of various changes and modifications, without departing from the spirit or scope of the invention or sacrificing any of its advantages, and I accordingly claim all such forms of the device to which I am entitled.

Having thus described my invention, what I claim as new is:

1. In a game device of the class described, a rotatable shaft, a ball attached thereto and arranged for rotation thereabout, a carrier arranged for movement along a horizontal plane and means operatively connecting said shaft for the actuation of said carrier.

2. In a game device of the class described, a rotatable shaft having a ball arranged thereon and adapted for rotation about the shaft, a carrier mounted for movement along a horizontal plane, means operatively connecting said shaft on the actuation of said carrier, said carrier being adapted for movement independent of its operative connection with said shaft.

3. In a game device of the class described, a rotatable shaft having a ball attached thereto and adapted for rotation about the axis of the shaft, stop means limiting the extent of rotation of the shaft, a carrier arranged for movement along a horizontal plane, means operatively connecting the same with said shaft for moving the carrier in one direction and independent means connected with the carrier for moving the same in an opposite direction.

4. In a game device of the class described, a rotatable shaft having a ball attached thereto and adapted for rotation about the axis of the shaft, stop means limiting the extent of rotation of the shaft, a carrier arranged for movement along a horizontal plane, means operatively connecting the same with said shaft for moving the carrier in one direction and gravity actuated means connected with the carrier for moving the same in an opposite direction.

5. In a game device of the class described, a rotatable shaft having a ball carried thereby and adapted for rotation about the axis of the shaft, stop means limiting the extent of rotation of said shaft, a carrier having a miniature object mounted thereon and arranged for movement therewith along a horizontal plane, a cable connected with the carrier, a rotatable drum forming a connection for one end of the cable, a weight attached to the opposite end thereof and operating to restrain the movement of the carrier in one direction and adapted to cause the movement of the carrier in an opposite direction, means releasably engaging the drum operating to prevent the movement of the carrier through the weight and a train of gearing operatively connected with said drum adapted for actuation by said shaft.

6. In a game device of the class described, a rotatable shaft having a ball carried thereby and adapted for rotation about the axis of the shaft, stop means limiting the extent of rotation of said shaft, a carrier having a miniature object mounted thereon and arranged for movement therewith along a horizontal plane, a cable connected with the carrier, a rotatable drum forming a connection for one end of the cable, a weight attached to the opposite end thereof and operating to restrain the movement of the carrier in one direction and adapted to cause the movement of the carrier in an opposite direction, means releasably engaging the drum operating to prevent the movement of the carrier through the weight and a train of gearing operatively connected with said drum adapted for intermittent operative engagement with the shaft.

7. In a game device of the class described, a rotatable shaft having a ball carried thereby and adapted for rotation about the axis of the shaft, stop means limiting the extent of rotation of said shaft, a carrier having a miniature object mounted therein and arranged for movement therewith along a horizontal plane, a cable connected with the carrier, a rotatable drum forming a connection for one end of the cable, a weight attached to the opposite end thereof and operating to restrain the movement of the carrier in one direction and adapted to cause the movement of the carrier in an opposite direction, means releasably engaging the drum operating to prevent the movement of the carrier through the weight and a train of gearing operatively connected with drum adapted for actuation by said shaft whereby to transmit part of each complete rotation of the shaft to said drum.

8. In a game device of the class described,

a rotatable shaft having a ball carried thereby and adapted for rotation about the axis of the shaft, stop means limiting the extent of rotation of said shaft, a carrier having a miniature object mounted thereon and arranged for movement therewith along a horizontal plane, a cable connected with the carrier, a rotatable drum forming a connection for one end of the cable, a weight attached to the opposite end thereof and operating to restrain the movement of the carrier in one direction and adapted to cause the movement of the carrier in an opposite direction, means releasably engaging the drum operating to prevent the movement of the carrier through the weight and a train of gearing operatively connected with said drum, adapted for actuation by said shaft during part of its period of rotation and otherwise arranged independent thereof.

In testimony whereof I affix my signature.

RUSSELL JOHNSON.