Aug. 29, 1967 W. H. McKAIN 3,338,579

GAME APPARATUS FOR ENTRAPPING A BALL

Filed April 27, 1966

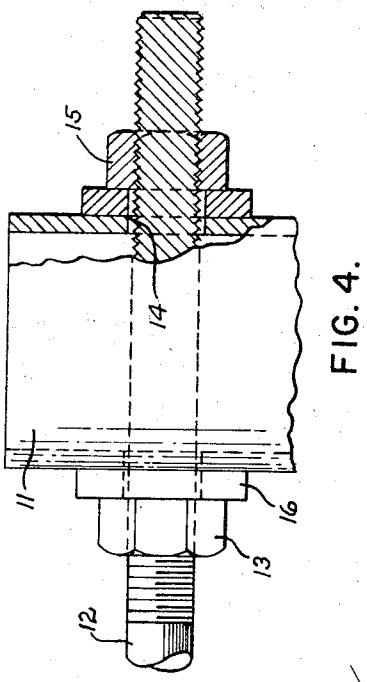


FIG. 4.

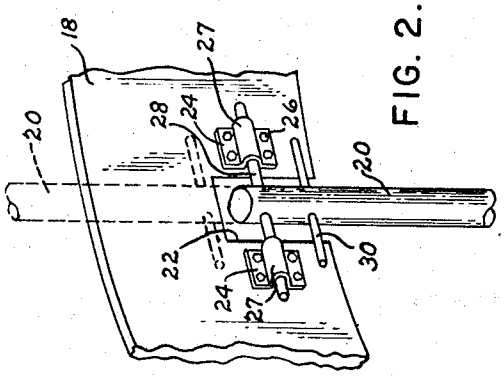


FIG. 2.

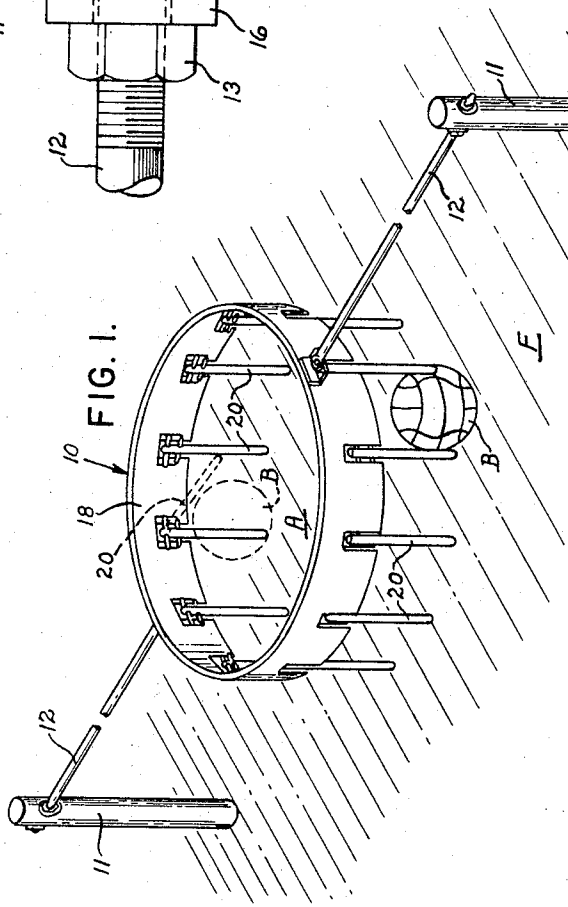


FIG. 1.

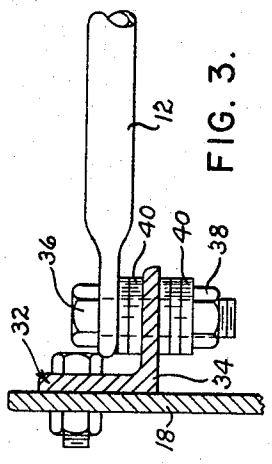


FIG. 3.

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GAME APPARATUS FOR ENTRAPPING A BALL

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ABSTRACT OF THE DISCLOSURE

This invention relates to a surface ball game in which a suspended cylindrical rim with pivoted depending fingers arranged therearound for trapping the ball, the rim being held by adjustable rods.

This application is a continuation-in-part of application Ser. No. 421,493, filed Dec. 28, 1964. This invention relates to game apparatus for entrapping a ball in a game of skill and more particularly to such apparatus positioned on a playing field and adapted to entrap a ball kicked or propelled over the surface of the playing field.

When a ball, such as an air-inflated spherical ball around eight (8) inches in diameter, is kicked or propelled over a playing field, the ball may travel over a wide range of speeds. At slow speeds the ball may barely actuate the trap; while at higher speeds, the ball may strike the trap with a heavy impact. Thus, a trap or goal must be adapted to entrap the ball when it is moving at speeds varying from a very slow roll at one extreme, to a very fast roll, bounce or flight at the other extreme. If a player directs his ball accurately enough to strike the trap, but not accurately enough to enter, it is desirable that the ball not rebound a considerable distance from the trap. Thus, a trap may also be adapted to shorten the rebound of a ball that strikes the trap, but does not strike it accurately enough to enter the goal.

If the trap is substantially rigid, a ball travelling at a relatively fast speed may bounce considerably after it has entered the trap; or, if it strikes the trap and does not enter, it may rebound a considerable distance. If the trap is of a considerable resiliency or flexibility, it may set up counter motions in the ball when the ball strikes the trap resulting in the ball bouncing considerably after it has entered the trap. Thus, a suitable trap should have a limited flexibility or resilience in order to absorb the impact of the ball and yet effectively trap the ball as well as to shorten the rebound of a ball striking the trap, but not entering. A limited generally horizontal movement of the goal of around ½ inch to 1 inch has been found satisfactory for shortening the rebound of a ball striking the trap, but not entering.

As the ball must be easily removed from the trap, the present goal is provided with an open top to permit a player to lift the entrapped ball from the goal. The limited flexibility of the goal permits the ball to be easily entrapped without bouncing out of the top of the goal, and it shortens the rebound of a ball that strikes the trap and is not entrapped. Resistance to the ball entering the goal is undesirable and the present invention provides only a minimum resistance.

The present invention also includes a generally cylindrical rim suspended above the playing field by a pair of opposed flexible rod-like members attached to the rim on opposite sides thereof and extending horizontally from the rim a distance at least equal to the diameter of the rim and at a height above the playing field greater than the diameter of the playing ball to permit the playing ball to move beneath the rod-like support members. A vertical post adjacent the extending end of each rod-like support secures the support. Thus, the goal is suspended

by rod-like supports which provide a limited flexibility. The tension on the rod-like supports may be adjusted at the posts to provide the desired flexibility or movement in the rim when struck by a ball. A limited movement of the rim of around ½" to 1" has been found desirable for absorbing the impact forces from the playing ball and yet to trap effectively the playing ball..

A plurality of suspended fingers are arranged in spaced relation about a circle with the fingers being of a minimum weight while of sufficient strength to permit their continuous use. The light weight fingers provide only a minimum resistance to the travel of the ball and are easily pivoted upon contact with the playing ball to permit entry into the trap. Stops or detents are arranged on the fingers to engage the rim and prevent the fingers from swinging in an outwardly direction. When the fingers are pivoted about 180° when engaged by a ball, the fingers engage the upper width of the rim to distribute the stress along a substantial portion of the length of the fingers thereby relieving any concentration of stress from the pivots of the fingers.

The invention accordingly comprises the constructions hereinafter described, the scope of the invention being indicated in the following claims.

In the accompanying drawings, in which one of several possible embodiments is illustrated,

FIGURE 1 is a perspective view of game apparatus embodying the present invention illustrating a goal supported over a playing area and adapted to trap a playing ball therein;

FIGURE 2 is an enlarged fragment of FIGURE 1 illustrating means mounting a suspended finger for pivotal movement in one direction and restraining pivotal movement in an opposite direction;

FIGURE 3 is an enlarged elevational view of means to adjust the height of the goal above the playing area; and

FIGURE 4 is a fragmentary view of the post for supporting the goal with certain parts being broken away.

Corresponding reference characters represent correspondings parts throughout the several views of the drawing.

Game apparatus comprising the present invention includes a goal generally designated **10** supported over a playing field or area F. To support goal **10**, a vertical post or support **11** is mounted in playing field F on opposite sides of goal **10**. Playing field F is normally at ground level and has a suitable turf to permit a playing ball B to easily roll along its surface. Posts **11** are tubular and may be anchored in concrete or the like, if desired, to provide a generally rigid securement. Playing ball B is preferably an air inflated ball of around eight (8) inches in diameter which may be kicked by a player. Posts **11**, in order to present only a minimum interference with the ball, are positioned a distance from goal **10** at least greater than the diameter of goal **10**. Thus, ball B may be kicked beneath goal **10** from practically any position.

In order that goal **10** may be easily positioned on posts **11** in a minimum of time and to provide a preselected flexibility for goal **10**, flexible rods **12** suspend goal **10** at a height above the ball and are adjustably secured to posts **11**. For mounting goal **10**, nuts **13** are first threaded on the ends of rods **12** with the rods then inserted through openings **14** in posts **11**. Then, end nuts **15** are threaded on rods **12** and tightened to provide the desired tensioning and flexibility to goal **10**. Washers **16** are arranged adjacent nuts **13** and **15**. When nuts **15** have been suitably tightened, nuts **13** may then be tightened to prevent pivoting of goal **10** when engaged by ball B. Goal **10** is preferably suspended by rods **14** to provide a movement of around ½ to 1 inch when struck by ball B travelling in

the higher speed ranges. Posts **11** and rods **12** form cantilevered supports for suspending goal **10**.

Goal **10** comprises a generally circular rim or ring **18** forming a main body support for a plurality of fingers **20** suspended in a circle at arcs of about 28° about the periphery of rim **18**. Fingers **20** are spaced from each other a distance less than the diameter of ball B to prevent the ball from entering or leaving an inner trap area A defined by the fingers without contacting at least one finger **20**. Fingers **20** are spaced from the upper surface of playing area F a height less than the diameter of ball B so that ball B cannot roll under the fingers without contacting the fingers.

For mounting fingers **20**, rim **18** has a slot **22** adjacent each finger. A bracket **24** is secured to rim **18** on each side of slot **22** by suitable means, such as nut and bolt combinations **26**. Each bracket **24** has a sleeve **27**. Fitting within adjacent sleeves **27** is a cross member **28** on the upper end of each finger **20** and adapted for pivotal movement about a generally horizontal axis. To restrain each finger **20** from pivoting or swinging outwardly with respect to trap area A, a stop **30** on finger **20** bears against the inner surface of rim **18** in the vertical suspended position of finger **20** and prevents outward pivoting of the finger from vertical position. Contact of a finger **20** by ball B from a position outside trap area A pivots the finger inwardly as shown in broken lines in FIGURE 1. Thus, ball B enters the area circumscribed by the plurality of fingers **20**.

Fingers **20** are a light weight construction in order to provide a minimum resistance to the momentum of ball B as the ball enters the trap. When fingers **20** pivot or flip upwardly after being engaged by the ball, the inner surface of rim **18** is engaged. Rim **18** is of a width of around six (6) inches and when engaged by fingers **20** the impact stress is distributed along the engaged width of rim **18** thereby relieving a concentration of stress about the pivot of cross member **28**.

To provide vertical adjustment for goal **10**, FIGURE 3 illustrates the connection of rods **12** to rim **18**. A suitable clip angle **32** is secured, such as by welding, to the outer face of rim **18** and has an outwardly projecting leg **34**. A bolt **36** extends through aligned openings in leg **34** and support **12** and is secured by nut **38**. A plurality of spacers **40** are positioned about bolt **36** and may be placed either above or below leg **34** for adjusting the height of goal **10**.

As a specific but non-limiting example of the game apparatus comprising the present invention, ball B may be an air inflated spherical ball of eight (8) inches in diameter. Goal **10** may have a diameter of around twenty-two (22) inches with fingers **20** of a length of ten (10) inches and spaced from the field a distance of around four (4) inches. Fingers **20** are spaced in equal arcs of 28° about rim **18** which is of a width of six (6) inches. Fingers **20** project downwardly a distance of seven (7) inches from the lower edge of rim **18**.

In the playing of the game, the player kicks the ball from a set position which may be any desired distance from goal **10**, such as one hundred and fifty (150) yards. Successive kicks are made until a goal is made by the ball entering trap area A. If desired, a plurality of goals **10** may be placed over a course with varying distances and terrain between adjacent goals. Several players may compete on a course.

From the foregoing, game apparatus has been provided in which a goal **10** for entrapping a playing ball is suspended above a playing field by an opposed pair of generally horizontal flexible support rods **12**. The support rods **12** are easily tensioned and secured to posts **11** at a position remote from goal **10** to provide a minimum of interference with the playing ball. The goal **10** is mounted for limited movement when engaged by the playing ball to absorb the impact force and yet to entrap the ball without the ball bouncing upwardly out of the goal or, if the ball strikes the trap without being entrapped, to keep the ball from rebounding a considerable distance from the trap. Pivotally suspended fingers **20** are of a light weight construction and are adapted to pivot against rim **18** for absorbing impact stresses.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results obtained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. Apparatus for playing a game of skill with a generally spherical playing ball of generally around eight inches in diameter on a playing field comprising, a pair of generally vertically and extending horizontally spaced posts, a generally horizontal rod adjustably secured to each post generally adjacent the upper end thereof, the pair of rods extending toward each other from the respective posts and having horizontally spaced inner ends, a cylindrical rim of a diameter greater than twice the diameter of the ball connected to and suspended from the inner ends of the opposed rods at a height above the playing field greater than the diameter of the playing ball, means adjustably tensioning said rods and connected rim on said posts to provide a desired flexibility in said rim and said posts being spaced from said rim a distance greater than the diameter of said rim, and a plurality of generally elongated fingers suspended from said rim and spaced from each other a distance less than the diameter of the playing ball to define an inner trap area below the rim greater than the diameter of the playing ball, said fingers being spaced from the playing field a distance less than the diameter of the playing ball and mounted on said rim to pivot inwardly when contacted by the playing ball rolling along the playing field to permit the ball to enter said inner area with said rim being properly tensioned so that the impact of the ball is absorbed without excessive flexibility in the apparatus, said fingers returning to a vertical suspended position after the ball enters the inner trap area, and means on said fingers adapted to engage the inner surface of said rim to prevent the outward pivoting of said fingers, said rim having open ends to permit the playing ball to be lifted therefrom after being entrapped.

2. Apparatus as set forth in claim **1** wherein said rim is a cylindrical rim having a plurality of downwardly facing slots along its lower marginal portion, said fingers being pivotally suspended from the inner face of said rim and mounted for pivotal movement within said slots whereby said fingers pivot inwardly against said rim when engaged by a playing ball.

3. Apparatus as set forth in claim **1** wherein the outer end of each rod is threaded and the adjacent post has an opening receiving said threaded end, and means engaging the threaded rod ends to tension said rods and rim.

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