

Nov. 16, 1943

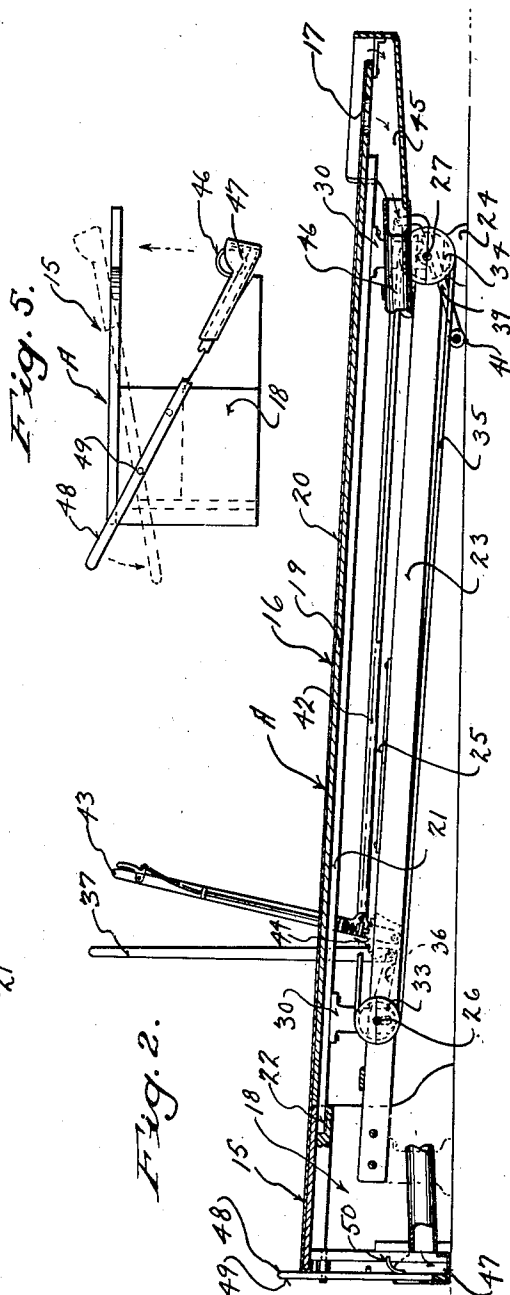
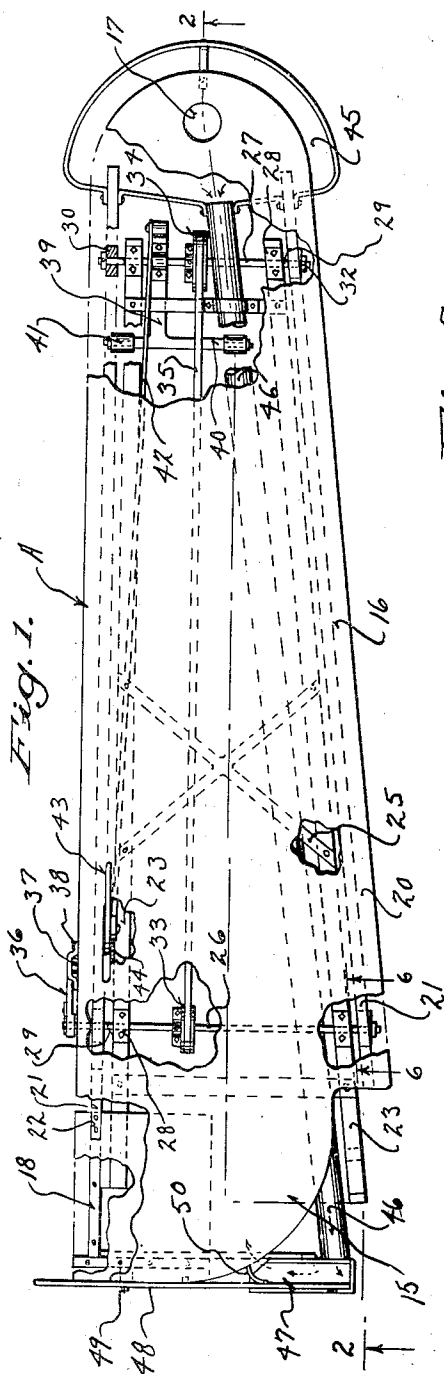
W. S. BUFFHAM

2,334,540

GOLF PUTTING PRACTICE GREEN

Filed July 29, 1942

3 Sheets-Sheet 1



INVENTOR
WILLIAM S. BUFFHAM

BY

ATTORNEYS

Nov. 16, 1943.

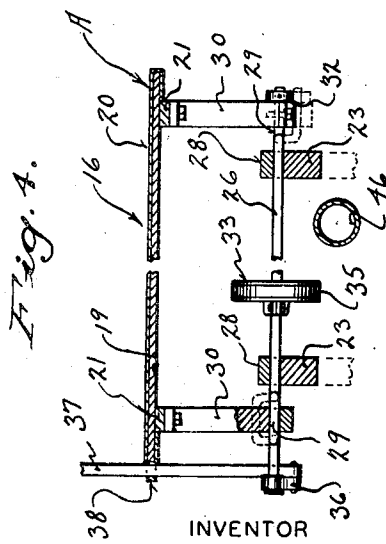
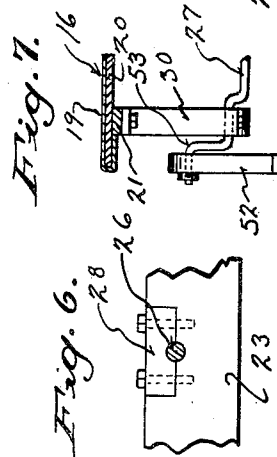
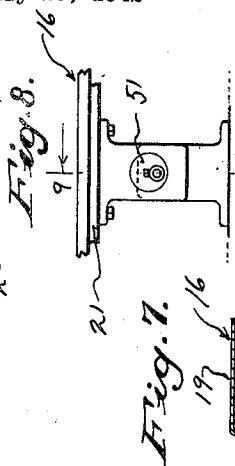
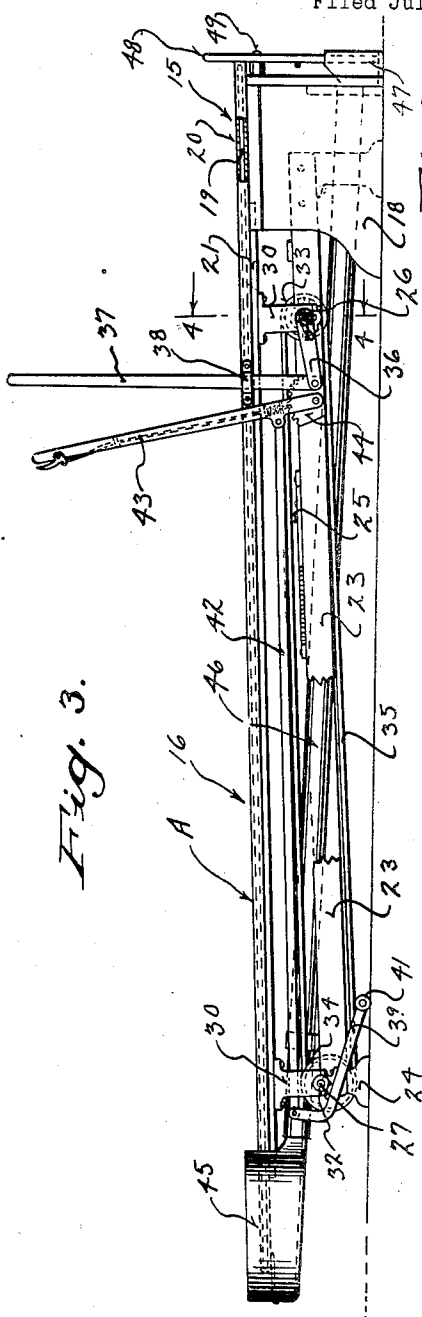
W. S. BUFFHAM

2,334,540

GOLF PUTTING PRACTICE GREEN

Filed July 29, 1942

3 Sheets-Sheet 2



INVENTOR
WILLIAM S. BUFFHAM

BY

[Signature]

ATTORNEYS

Nov. 16, 1943.

W. S. BUFFHAM

2,334,540

GOLF PUTTING PRACTICE GREEN

Filed July 29, 1942

3 Sheets-Sheet 3

Fig. 10.

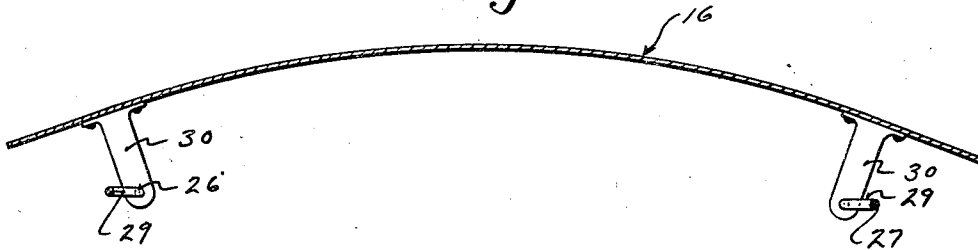


Fig. 11.

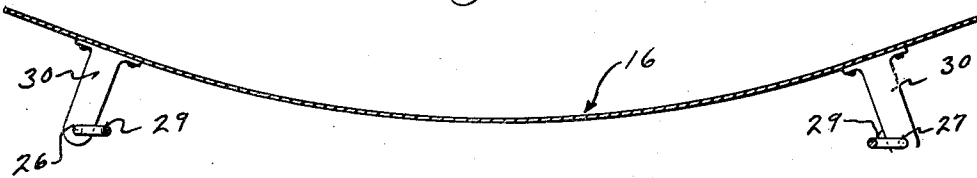


Fig. 12.

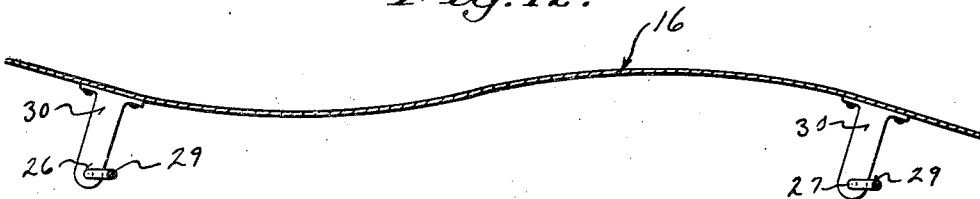


Fig. 13.

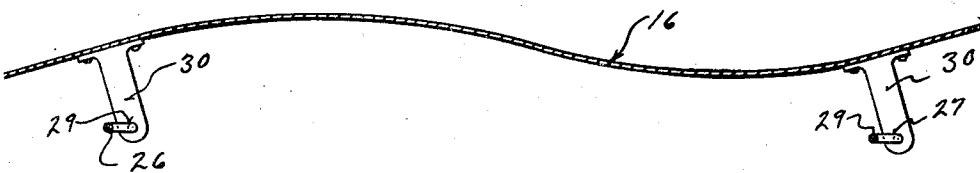
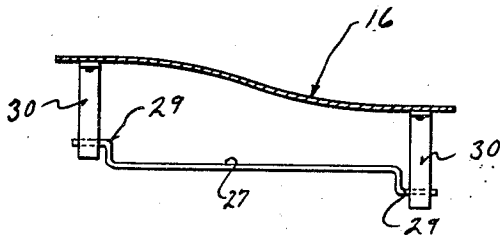


Fig. 14.



INVENTOR
WILLIAM S. BUFFHAM

BY

Wm. S. Buffham

ATTORNEYS

UNITED STATES PATENT OFFICE

2,334,540

GOLF PUTTING PRACTICE GREEN

William S. Buffham, Racine, Wis.

Application July 29, 1942, Serial No. 452,677

10 Claims. (Cl. 273—35)

This invention appertains to a golf game and more particularly to a practice putting green capable of use in the home, amusement halls, hotel lobbies and the like.

One of the primary objects of my invention is to provide a practice or artificial putting green in which the surface contour of the playing floor or field can be varied to simulate the approach of the various holes or cups at different golf courses, whereby a maximum amount of skill in putting will be developed by the users of the apparatus.

Another salient object of my invention is to provide a practice putting green embodying a flexible playing field or floor with means under the control of the player for flexing the field or floor whereby to continuously change the contour of said field or floor and thereby effectively simulate the different rolling greens of various golf courses.

A further object of my invention is the provision of a practice putting green embodying a raised platform constituting a stand for the player and the ball and an elongated flexible field or floor over which the ball is played toward a cup or hole at the end of the floor and rotatable eccentric members arranged adjacent to the corners of the floor for raising and lowering the floor adjacent to said corners and thereby effectively flex said floor to different contours.

A further important object of my invention is the provision of a single operated lever arranged adjacent to the platform and in convenient reach of the player for simultaneously operating all of said eccentrics.

Another important object of my invention is the provision of means for operating the eccentrics at one end of the floor at a different speed of rotation from the speed of rotation of the eccentrics at the other end of said floor, whereby the contour of the floor will be continuously changed upon each operation of the hand lever.

A further important object of my invention is the provision of means under the control of the player for raising and lowering one end of the floor whereby the inclination of the floor from one end to the other can be varied.

A further object of my invention is the provision of means for returning the played ball to the player's stand whereby the same can be conveniently replayed by the player.

A still further object of my invention is to provide a practice putting green of the above character, which will be durable and efficient in use, one that will be simple and easy to manu-

facture and one which will extend a maximum amount of pleasure to the user thereof.

With these and other objects in view the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a top plan view of my improved device with parts thereof broken away and in section to illustrate structural details.

Figure 2 is a longitudinal sectional view through my putting green taken on the line 2—2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a side elevational view of my putting green.

Figure 4 is a fragmentary transverse sectional view through my device taken on the line 4—4 of Figure 3 looking in the direction of the arrows.

Figure 5 is an end elevational view of the golf practice device showing the player's end thereof.

Figure 6 is a detail sectional view taken on the line 6—6 of Figure 1 looking in the direction of the arrows illustrating one form of mounting for one of the rotatable shafts.

Figure 7 is a fragmentary detailed transverse sectional view illustrating a slightly modified form of my invention.

Figure 8 is a detail fragmentary side elevational view illustrating the use of cams for changing the angle or pitch of the field or floor instead of cranks.

Figure 9 is a fragmentary transverse sectional view taken on the line 9—9 of Figure 8 looking in the direction of the arrows.

Figures 10 to 13 inclusive are longitudinal sectional views of a diagrammatic nature illustrating certain contours the flexible playing board or field will assume during the rotation of the shafts.

Figure 14 is a transverse sectional view of a diagrammatic nature illustrating one portion of the flexible field or floor during the rotation of one of the shafts.

Referring to the drawings in detail wherein similar reference characters designate corresponding parts throughout the several views, the letter "A" generally indicates my novel golf practice putting apparatus and the same includes a raised platform 15 and an elongated playing field or floor 16. The field or floor 16 extends forwardly from the stand 15 and the end of the field or floor remote from the stand is provided with a ball receiving cup or hole 17, toward which the

ball is played by the player from the stand 15. In the drawings I have only shown one hole or cup but it is to be noted that a number of holes can be placed in the floor at different distances from the stand. Where more than one hole is placed in the device, the holes will be arranged out of alignment with one another.

The platform 15 is rigidly secured to suitable supports 18 which can be in the nature of pedestals, brackets or legs and these supports 18 must have sufficient strength to support the weight of a person standing on said platform.

The playing field or floor 16 is formed from a length of flexible board 19 such as ply wood, wall board or the like and the entire surface of this board and the stand is covered with a continuous piece of covering 20. This covering 20 is preferably of a fabric having a pile so as to simulate grass. The fabric 20 can be of different characters so that a fast or slow approach can be had. Secured to the under side of the board is a pair of longitudinally extending flexible strips 21. These strips 21 are disposed adjacent to the edges of the board 19 and the strips at one end are secured to the supports 18 as at 22.

Disposed below the flexible strips 21 are rigid longitudinally extending beams or stringers 23. The ends of these beams or stringers 23 are rigidly secured to supporting legs or feet 24. As is clearly shown in Figures 1, 2 and 3 the supporting legs or feet 24 are arranged adjacent to the opposite ends of the playing field or floor 16. The beams 23 are secured together against twisting movement by braces 25. These beams 23 adjacent to their opposite ends rotatably support an inner shaft 26 and an outer shaft 27. These shafts 26 and 27 extend transversely across the apparatus. To facilitate the association of the shafts with the beams, the beams can be provided with removable bearing blocks 28 (see Figure 6). As shown in Figures 1, 2, 3, 4 and Figures 10 to 14 inclusive, the shafts adjacent to their opposite ends can be provided with crank arms 29. The crank arms 29 are arranged at different angles relative to one another, for a purpose, which will be later set forth. Rigidly secured to the flexible strips 21 are depending bearing brackets 30. These bearing brackets 30 are arranged adjacent to the corners of the playing field and the lower ends of the bearing brackets are provided with removable bearing blocks 32 for rotatably receiving the cranks 29. Hence the playing field or floor 16 is connected to the rigid base formed by the stringers 23 and the legs 24 by eccentric members or crank arms 29. Fastened to the shaft 26 is a pulley wheel 33 and a similar pulley wheel 34 is fastened to the shaft 27. It is to be noted, however, (see Figure 2) that the diameter of the pulley 34 is greater than the diameter of the pulley 33. These pulley wheels 33 and 34 are operatively connected together by an endless pulley belt 35, so that upon the turning of one shaft the other shaft will be rotated therewith, but at a different speed.

Operatively connected, by means of a ratchet mechanism, to one end of the shaft 26 is an operating crank lever 36. Pivotally connected to the outer end of the crank lever 36 is an operating handle 37. This handle extends through a guide strap 38 rigidly secured to the playing field or board 16. It is to be noted, however, that the operating handle 37 is disposed adjacent to the platform 15 and in convenient reach of a player standing upon said platform. The handle 37 is adapted to be moved up and down so that the

crank lever 36 will be alternately raised and lowered. The ratchet connection between the crank lever 36 and the shaft 26 is such that upon downward thrust of the handle 37 the shaft 26 will be turned and that upon upward movement of the handle the crank lever will merely ratchet free of the shaft. Thus upon downward movement of the handle the shafts 26 and 27 will be simultaneously turned a part of a revolution.

As the shafts 26 and 27 turn the eccentrics or cranks on said shafts will act to flex the playing field or floor 16 and hence this floor will be moved to various positions. As the handle is operated again the cranks will assume another position and the playing field or floor will be flexed in a different manner. Due to the fact that the speed of rotation of the shafts 26 and 27 are different the cranks on the two shafts will constantly change relative to one another and this brings about the constant changing of the contour of the board.

If preferred, intermediate shafts (not shown) can be utilized for also acting on the playing field or floor.

As shown in Figure 10, when the cranks on the shafts 26 and 27 are moved away from one another the playing field or floor will be bowed upwardly. When the cranks move toward one another the playing field or floor will be bowed downwardly. In Figure 13, one crank is moved inwardly and the other crank is moved outwardly and the floor is given a double curve. In Figure 13, the cranks at the opposite end of the apparatus will turn in the same direction and the floor is given a double curve, but in a reverse direction from that shown in Figure 12. In Figure 14 the cranks on one of the shafts are so positioned that one extends up and the other down and consequently the floor is flexed in such a manner that a transverse curve is given to said floor.

Provision can also be made for raising and lowering one end of the floor or field so that the inclination of said floor or field from one end thereof to the other can be changed. As shown in Figures 1, 2, and 3 the shaft 27 has rockably mounted thereon a swinging leg 39. The lower end of the leg is provided with outwardly extending arms 40 and these arms carry anti-friction rollers 41 for engaging the surface on which the apparatus is placed. The upper end of the leg 39 has pivotally connected thereto an operated link 42 which is disposed under the player field or floor and this link extends toward the stand or platform 15. This link 42 is pivotally connected to an operating lever 43 (see Figure 3). The operating lever is rockably mounted on a quadrant rack 44 and the lever can be latched to said rack by means of a finger grip operated dog. This lever 43 is also arranged adjacent to the player's stand or platform and obviously by manipulating the lever the leg 39 can be swung down so as to lift up the outer end of said playing field or board.

Carried by the outer end of the playing field or board is a ball receiving basket 45 and a part of this basket extends under the playing field so that as the balls drop off the outer end of the floor or field or drop through the opening 17 the same will be caught. The bottom wall of the basket inclines toward a conveyor tube 46. This conveyor tube 46 is inclined downwardly from the basket toward the player's platform. As a ball rolls down the tube 46 the same is received in a trough 47. This trough 47 is rigidly secured to

a short operating lever 48 that is rockably mounted intermediate its ends on the platform 15 as at 49. By pressing down on the outer end of the lever 48 the trough 47 can be raised and a received ball will then roll down the trough toward the inner end thereof. This inner end is provided with an arcuate guide lip 50 which directs the ball onto the platform 15 and the player can position the ball with his club on said platform to the desired place.

Various changes can be made in my apparatus and for instance, in lieu of using crank arms on the shafts I can employ cams 51 as is clearly shown in Figures 8 and 9. Where I employ cams the playing field carries depending cam straps for receiving said cams. If preferred the cams can be held in any desired adjusted position on the shafts by means of set screws.

In lieu of providing a hand lever for operating the leg 39 to change the angle of inclination of the playing field or board I can provide legs 52 (see Figure 7) disposed on each side of the apparatus and these legs can be mounted on operating cranks 53 formed on the outer ends of the shaft 27.

From the foregoing description, it can be seen that I have provided a golf practice putting green which will extend a player a maximum amount of amusement and develop his skill in putting over courses of different contours.

What I claim as new is:

1. A golf practice putting apparatus comprising a raised player's platform, an elongated flexible playing field extending forwardly from said platform, said field having at least one opening therein at a point remote from said platform, and means under the control of the player for changing the surface contour of said field.

2. A golf practice putting apparatus comprising a raised player's platform, an elongated flexible playing field extending forwardly from said platform, said field having at least one opening therein at a point remote from said platform, eccentric members engaging the lower face of the field and supporting the same adjacent to the opposite corners thereof, and means for simultaneously operating all of said eccentric members.

3. A golf practice putting apparatus comprising a rigid base, front and rear transversely extending shafts carried by said base, a flexible playing field disposed above said base, eccentric members on said shafts adjacent to the opposite ends thereof, depending bearings carried by the lower face of the playing field receiving said eccentric members, and means for simultaneously turning said shafts.

4. A golf practice putting apparatus comprising a rigid base, front and rear transversely extending shafts carried by said base, a flexible playing field disposed above said base, eccentric members on said shafts adjacent to the opposite ends thereof, depending bearings carried by the lower face of the playing field receiving said eccentric members, and means for simultaneously turning said shafts at different speeds.

5. A golf practice putting apparatus comprising a rigid base, front and rear transversely extending shafts carried by said base, a flexible playing field disposed above said base, eccentric members on said shafts adjacent to the opposite ends thereof, depending bearings carried by the lower face of the playing field receiving said eccentric members, and means for simultaneously turning said

shafts, said means including a single operating lever.

6. A golf practice putting apparatus comprising a rigid base, front and rear transversely extending shafts carried by said base, a flexible playing field disposed above said base, eccentric members on said shafts adjacent to the opposite ends thereof, depending bearings carried by the lower face of the playing field receiving said eccentric members, and means for simultaneously turning said shafts and means independent of said eccentric members for changing the inclination of said field from one end thereof to the other.

7. A golf practice putting apparatus comprising a raised player's platform, a rigid base extending forwardly from said platform, front and rear transversely extending shafts rotatably carried by the base, means operatively connecting the shafts together for simultaneous rotation, a flexible playing field arranged above said base and extending forwardly from said platform, eccentric members arranged on said shafts adjacent to the opposite ends, depending bearings carried by the field receiving said eccentric members, and means arranged adjacent to the player's stand for rotating one of said shafts.

8. A golf practice putting apparatus comprising a raised player's platform, a rigid base extending forwardly from said platform, front and rear transversely extending shafts rotatably carried by the base, means operatively connecting the shafts together for simultaneous rotation, a flexible playing field arranged above said base and extending forwardly from said platform, eccentric members arranged on said shafts adjacent to the opposite ends, depending bearings carried by the field receiving said eccentric members, and means arranged adjacent to the player's stand for rotating one of said shafts, a swinging leg carried by one end of the playing field, and means arranged adjacent to the platform for moving said leg into and out of ground engaging position.

9. A golf practice putting apparatus comprising a raised player's platform, a rigid base extending forwardly from said platform, front and rear transversely extending shafts rotatably carried by the base, means operatively connecting the shafts together for simultaneous rotation, a flexible playing field arranged above said base and extending forwardly from said platform, eccentric members arranged on said shafts adjacent to the opposite ends thereof, depending bearings carried by the field receiving said eccentric members, and means arranged adjacent to the player's stand for rotating one of said shafts, additional eccentric members on the rear shaft, and ground engaging legs carried by said additional eccentric members.

10. A golf practice putting green comprising a raised player's platform, a forwardly extending playing field having at least one ball receiving opening therein at a point remote from said platform, a basket carried by said playing field for receiving played balls, a conveyor tube extending toward said platform from said basket, the bottom wall of the basket being inclined toward said tube to lead the collected balls thereto, a trough for receiving balls from the tube, a swinging lever for raising and lowering said trough, and a guide lip on the inner end of said trough for directing the balls laterally from said trough toward said platform.

WILLIAM S. BUFFHAM.