Sept. 11, 1934. J. LOEB 1,972,894

AUTOMATIC GOLF TEE

Filed Dec. 29, 1930 5 Sheets-Sheet 1

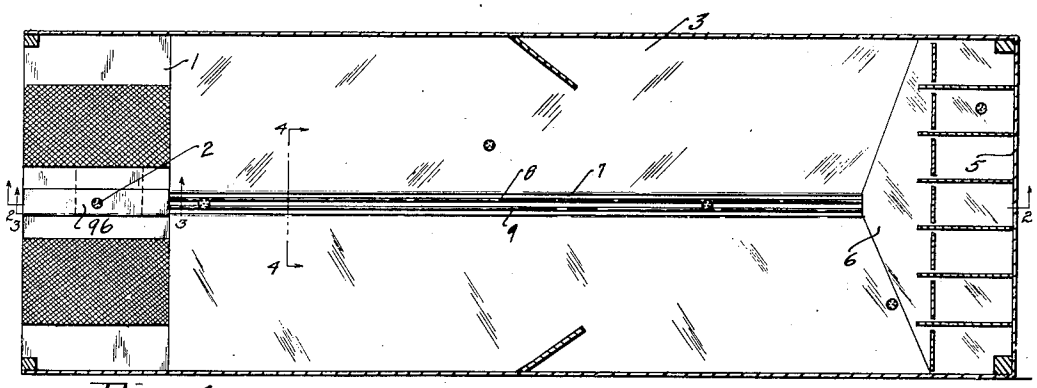


Fig. 1

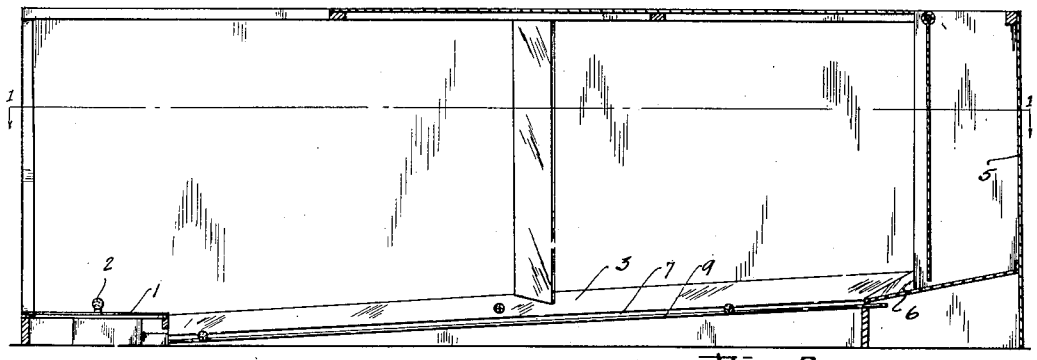


Fig. 2

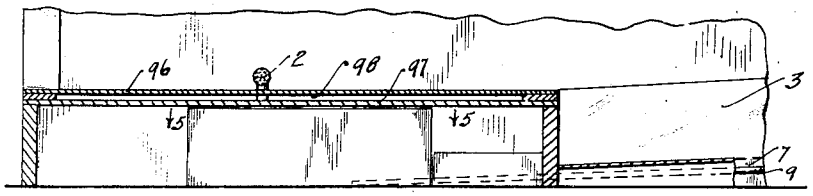


Fig. 3

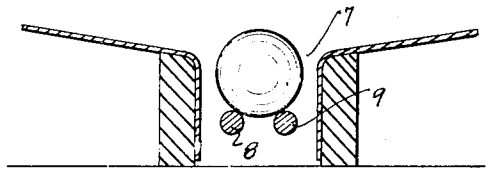


Fig. 4

Joseph Loeb
INVENTOR

BY Thomas Bilyeu
ATTORNEY

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AUTOMATIC GOLF TEE

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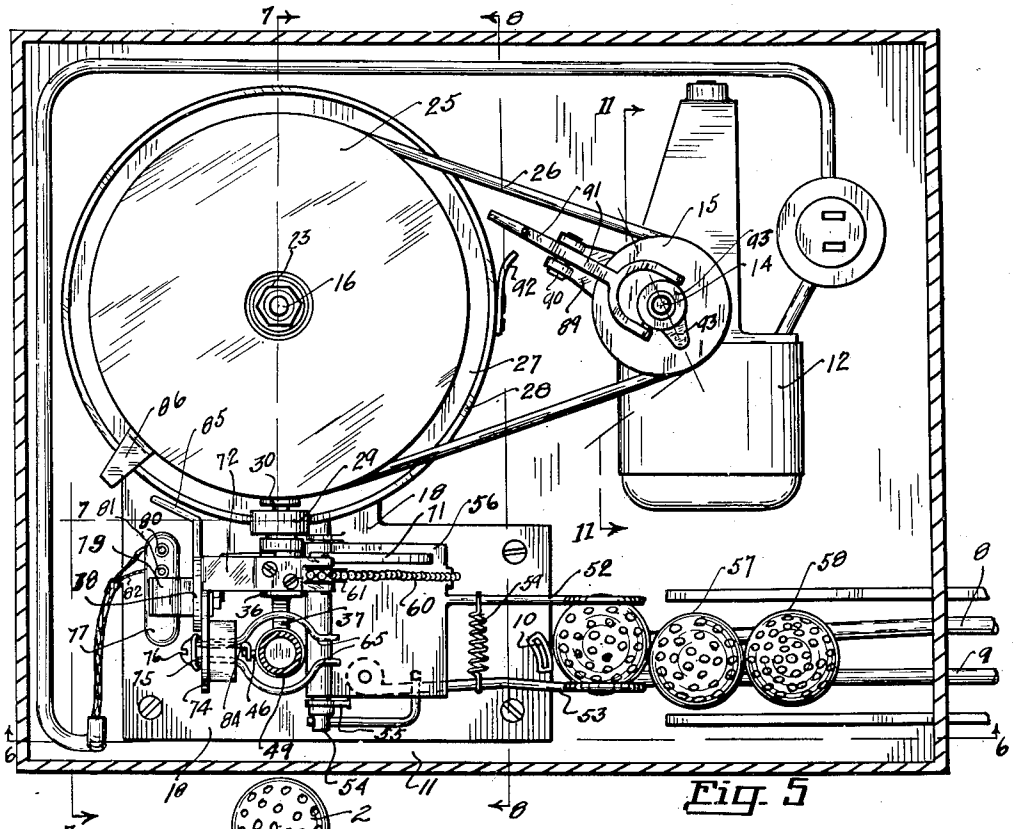


Fig. 5

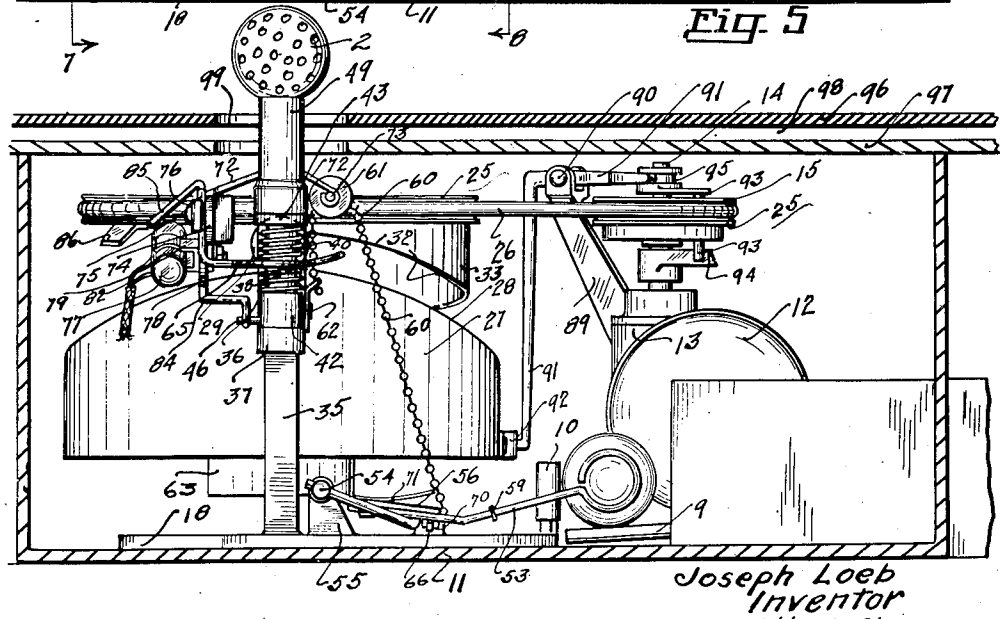


Fig. 6

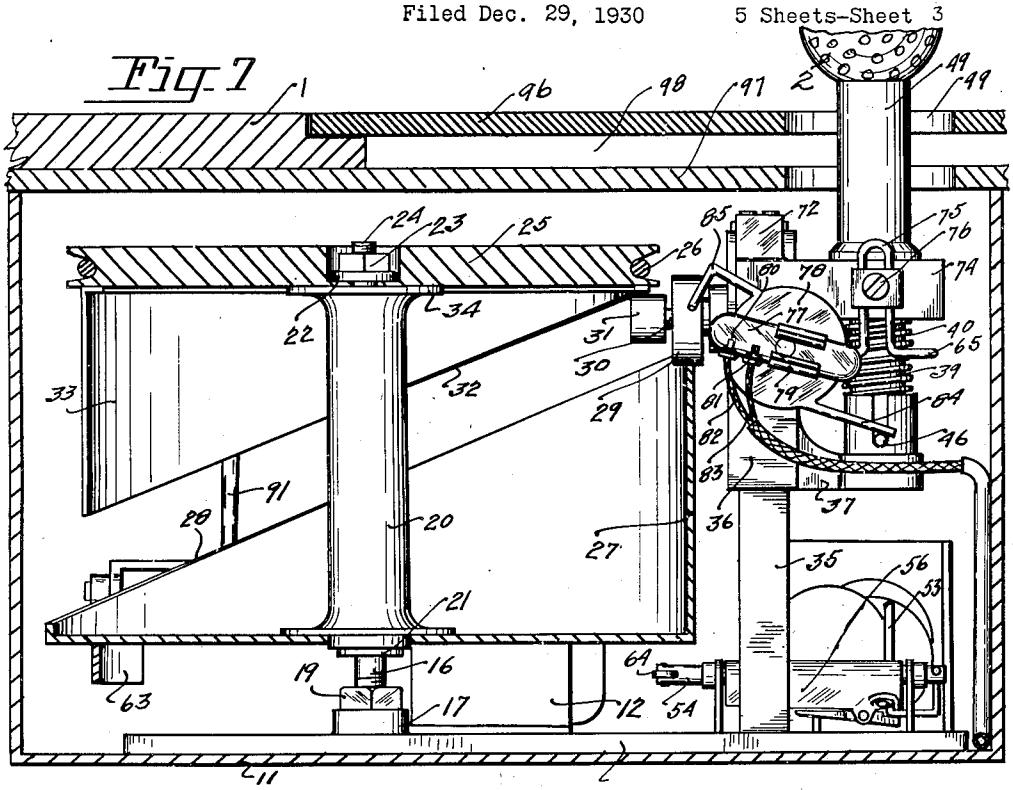
Joseph Loeb
Inventor
Attorney
Thomas Riley

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AUTOMATIC GOLF TEE

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Fig. 7



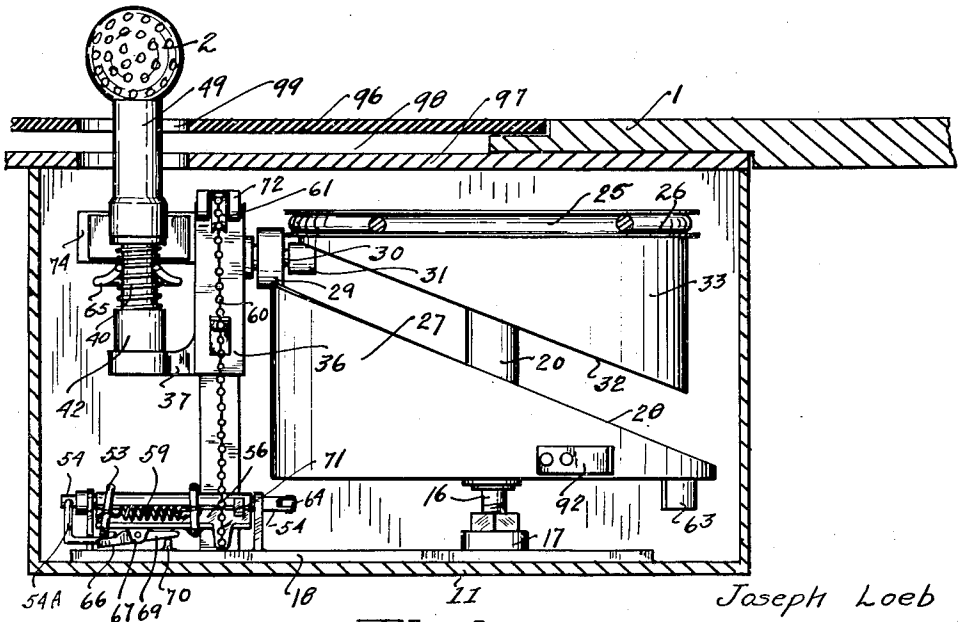


Fig. 8

Joseph Loeb
Inventor

Thomas Bilyeu
Attorney

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AUTOMATIC GOLF TEE

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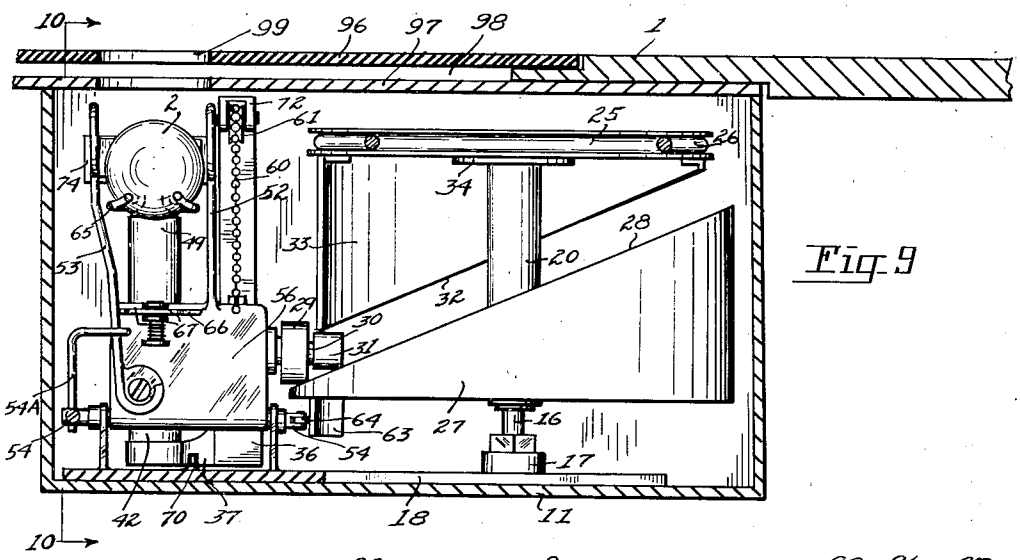


Fig. 9

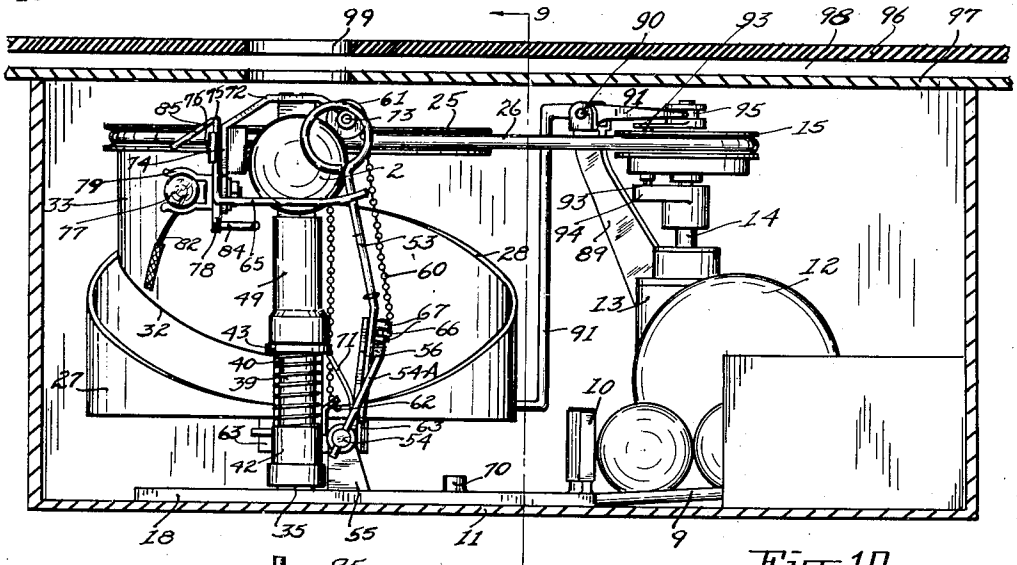


Fig. 10

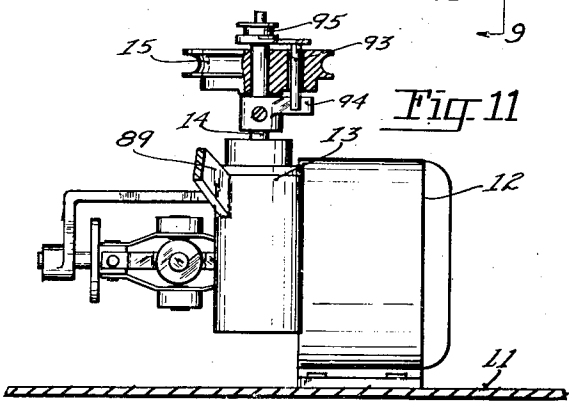


Fig. 11

Joseph Loeb
INVENTOR

BY Thomas Bilyeu
ATTORNEY

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AUTOMATIC GOLF TEE

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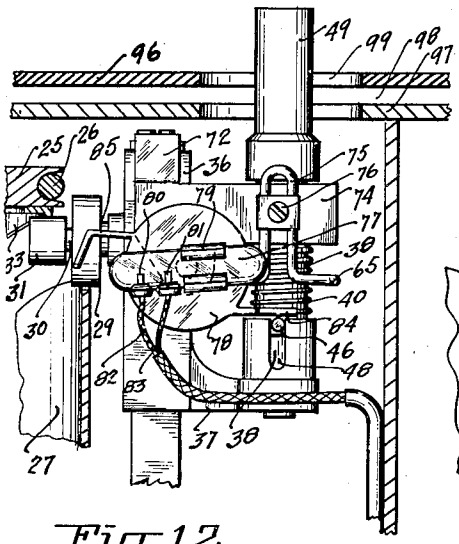


Fig. 12

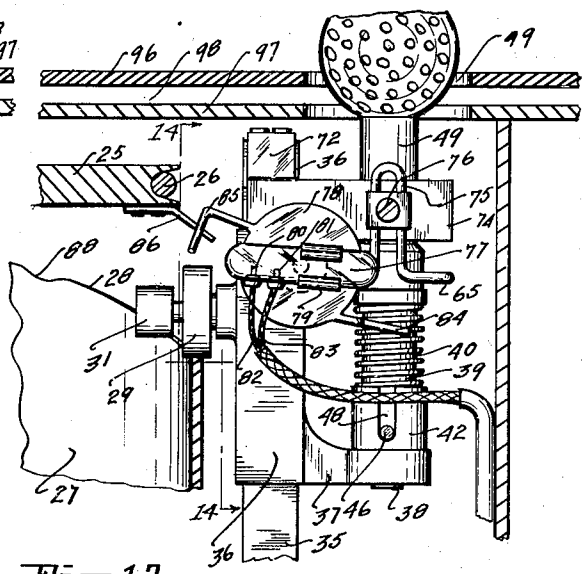


Fig. 13

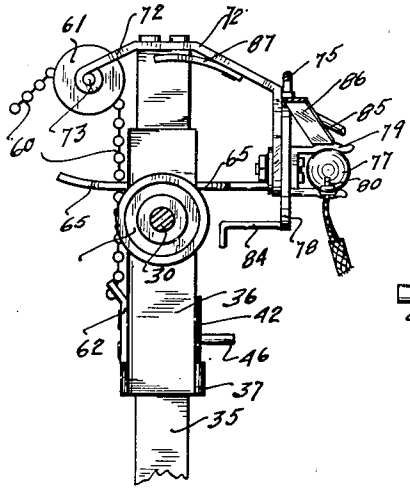


Fig. 14

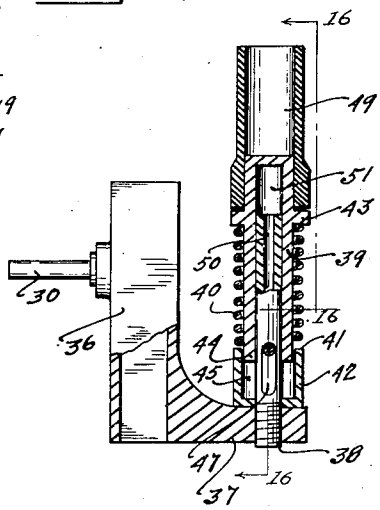


Fig. 15

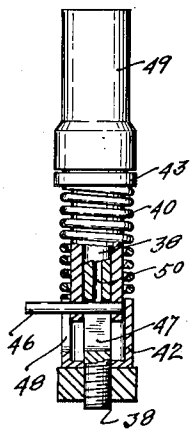


Fig. 16

Joseph Loeb
INVENTOR

BY
ATTORNEY

Patented Sept. 11, 1934 1,972,894

UNITED STATES PATENT OFFICE

1,972,894

AUTOMATIC GOLF TEE

Joseph Loeb, Portland, Oreg.

Application December 29, 1930, Serial No. 507,535

18 Claims. (Cl. 273—33)

My invention is intended as an automatic golf tee for use primarily in the automatic teeing of a golf ball, either for indoor, or outdoor use.

The invention consists primarily of a base having a prime mover mounted thereupon. A pair of spaced rails are so disposed that they will conduct the golf balls into the device and deliver the same upon the spaced rails, in intimate engagement with each other and deliver them against a cushioning stop. A pair of hinged arms pick up the balls, one at a time, and in doing so move the ball, being picked up laterally of the pair of spaced rails, and out of engagement with the stop to thereby lessen the energy necessary, and required, in the raising of the ball to the tee.

The tee is adapted for being reciprocated vertically. A pair of hinged arms deposits the ball upon a yoke that is precisely in line with the tee and the closing of the cycle of operation, raises the teed ball into striking position thus completing the cycle of operation. When the ball has been struck, or removed from the tee, the cycle of operation is renewed to place a second ball upon the tee to be removed.

The tee upon which the ball is placed is made from live rubber, or other suitable flexible material that may not be damaged by the golf club, or iron, when struck therewith.

A mat made of live rubber, or other suitable material is placed adjacent the tee and in spaced relationship with the supporting media, having a hole disposed therethrough, through which the ball and tee are raised. The live rubber produces the ideal operating condition under which my automatic golf teeing device is to be manipulated by the user.

The primary object of my invention is to provide an automatic tee for golf balls that will provide, for the user of the same, the best possible condition for the development of the player.

A further object of my invention consists in providing an automatic golf teeing device wherein the user of the same will be required to utilize a minimum of his time in the placing of and the playing of the maximum number of balls that he desires to play in the allotted time.

A further object of my invention consists in providing associated elements that will operate in a cycle of operation consisting in the picking up of a golf ball and the placing of the same upon a yoke or tee and the returning of the picking up elements to the initial position of engaging a ball and the cycle of operation is completed. Upon removal of the ball from the elevated tee that places the ball into playing position a recurring cycle of operation is made.

In the event that a ball is not in position to be picked up, recurring cycles of operation will be made until a ball is placed upon the tee and elevated to playing position. The weight of the ball being the controlling factor which is indicated by depressing the supporting tee to a stop position. A compressible element associated with the tee is made sensitive enough to be actuated by the weight of the ball.

A still further object of my device consists in providing an automatic golf teeing device that may be used on a practice course, that will enable the purchaser of the same, to handle a maximum number of customers within a given amount of time.

A still further object of my invention consists in providing an automatic golf teeing device that may be used in the home, or in limited areas, or where the user of the same may develop his stroke under actual playing conditions and wherein he may develop a maximum of practice experience within a limited amount of time.

A still further object of my device consists in providing an automatic golf teeing device wherein the ball is raised into playing position and maintained in that playing position, until removed and wherein the golf club, or iron used by the player, may not be made to engage any rigid resistance, other than the ball, in the playing of the same.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a sectional, plan view of a practice court, in which one of my new and improved automatic golf teeing devices is shown in position. The same being taken on line 1—1 of Fig. 2, looking in the direction indicated.

Fig. 2 is a longitudinal, sectional, side view of a practice court, illustrating one of my new and improved golf teeing devices in place therein, the same being taken on line 2—2 of Fig. 1, looking in the direction indicated.

Fig. 3 is a fragmentary, sectional, side view of the mechanism illustrated in Fig. 1. The same being taken on line 3—3 of Fig. 1, looking in the direction indicated.

Fig. 4 is a fragmentary, sectional, end view of the mechanism illustrated in Fig. 1. The view being taken on line 4—4 of Fig. 4, looking in the direction indicated. This view is particularly made to illustrate the spaced rails, down which the ball rolls to placement into the machine.

Fig. 5 is a sectional, top, plan view of the automatic teeing device, the same being taken on line 5—5 of Fig. 3, looking in the direction indicated.

Fig. 6 is a sectional, side view of the mechanism illustrated in Fig. 5, the same being taken on line 6—6 of Fig. 5 looking in the direction indicated. This view illustrates the tee in full raised position to place the ball in playing position.

Fig. 7 is a sectional, end view of the mechanism illustrated in Fig. 5 and in Fig. 6. The same being taken on line 7—7 of Fig. 5, looking in the direction indicated. This view illustrates the tee in full, raised position, to place the ball in playing position.

Fig. 8 is a sectional, end view of the mechanism illustrated in Figs. 5 and 6. The same being taken on line 8—8 of Fig. 5, looking in the direction indicated. This view illustrates the tee in full, raised position to place the ball in playing position.

Fig. 9 is a sectional, end view of the mechanism illustrating the tee in full, lowered position and illustrating the ball in position to be raised into playing position by the tee when raised. The same being taken on line 9—9 of Fig. 10, looking in the direction indicated.

Fig. 10 is a sectional, end view of the mechanism illustrated in Fig. 9, the same being taken on line 10—10 of Fig. 9, looking in the direction indicated.

Fig. 11 is a fragmentary, sectional, end view of the mechanism illustrated in Fig. 5. The same being taken on line 11—11 of Fig. 5, looking in the direction indicated.

Fig. 12 is a fragmentary, sectional, side view of the golf tee raising mechanism. The same illustrating the tee in full raised position.

Fig. 13 is a sectional, side view of the mechanism illustrated in Fig. 12, but illustrating the golf tee in partial raised position.

Fig. 14 is a fragmentary, sectional, side view of the mechanism illustrated in Fig. 13. The same being taken on line 14—14 of Fig. 13, looking in the direction indicated.

Fig. 15 is a fragmentary, sectional, side view of the tee and of the upper end of the stem to which the same is removably attached.

Fig. 16 is a sectional, side view of the mechanism illustrated in Fig. 15, the same being taken on line 15—15 of Fig. 16, looking in the direction indicated.

Like reference characters refer to like parts throughout the several views.

My device is primarily intended for use upon the practice golf course within the club, or home, or in any limited, or open areas, where the flight of the ball is to be limited by stops disposed adjacent thereto. The same may be used with equal facility to develop the full stroking capacity of the user and where the ball may be permitted to extend itself to full flight after being played.

For the purpose of illustration, I have elected to show my device, as being in use upon a practice court wherein a playing platform 1 is provided, as illustrated in Figs. 1, 2 and 3.

The ball 2 is raised to playing position and when played, may be made to engage either side, end, top or bottom walls. The bottom walls 3 being inwardly inclined and the end wall 5 being rearwardly inclined with an apron 6 being provided, so that the balls, when played, will gravitate into a returning troughlike channel way 7, to conduct the balls by gravity back to the player.

Inclined spaced rails 8 and 9 are disposed within the channel way 7 and the balls are returned to an automatic cushioning stop 10. The cushioning stop 10 being disposed upon the center line that is disposed between the two respective rails 8 and 9.

The golf teeing mechanism assembly is preferably mounted upon a base 11. A prime mover, as an electric motor 12, is mounted upon the base. Electric energy is conducted through the the motor, through suitable wiring connections and conduits leading to a source of electric energy not here shown. An automatic switch is disposed in the circuits that will be later described. A speed reducer 13 is associated with the prime mover 12 and a shaft 14 is associated therewith. The speed reducer is adapted for being driven at a substantially lower rate of rotation than that of the prime mover.

A pulley 15 is mounted upon the speed reducer shaft 14. A second stub shaft 16 upwardly extends from a hub 17. The hub being formed integral with and secured to a sub-base 18. The shaft 16 is removably secured to the hub 17 and is locked relative thereto by any suitable fastening means, as through the use of a lock nut 19.

A hub 20 is rotatably mounted upon the stub shaft 16 and is placed in precise position upon the stub shaft through the use of a collar 21 and a collar 22 and is held relative thereto, through the use of a nut 23, that is threadably and removably secured to the free end 24 of the shaft 16.

A driven pulley 25 is placed in registerable alignment with the pulley 15, and a driving element 26 is trained about the respective pulleys. A cylindrical cam 27 is mounted relative to the hub 20, and a camming surface 28 is provided upon the upper rim.

A wheel 29 is placed in registry with the cam 27 and is adapted to ride the camming surface 28. The wheel 29 is mounted upon a shaft 30 and in order to insure the wheel precisely riding the cam 27 and to follow the camming surface 28, a wheel 31 is also mounted upon the shaft 30 and the same is adapted to engage the under side of the camming surface 32. The camming surface 32 is formed integral with the cam body 33 and the cam body 33 is either directly, or indirectly secured to a flange 34 disposed upon the hub 20.

A column 35 upwardly extends from the sub-base 18 and is spaced apart from the respective cams 27 and 33. The outer surface of the column 35 forms a bearing for the bearing block 36 that is adapted for being raised and lowered relative to the cams through the action of the wheels 29 and 31 following the camming surface 28 and 32. The shaft 30 being directly secured to the bearing block 36. The bearing block being guided by and being reciprocated relative to the column 35.

Referring to Figs. 15 and 16, a foot 37 outwardly extends from the bearing block 36. A hollow spindle 38 is removably secured to the foot, as by being threaded thereinto. A sleeve

39 is disposed about the spindle 38 and a reacting element, as a coil spring 40 is disposed about the sleeve and rests, on its one end, upon the rim 41 of the shell 42. The shell 42 rests upon, and is formed integral with, the spindle 38. The oppositely disposed end of the coil spring 40 rests upon the under side of the collar 43 that is secured to the sleeve 39.

The lower end 44, of the sleeve, engages within the space 45 disposed between the shell 42 and the spindle 38. A trip stub 46 passes through the sleeve 39 and is secured thereto. The trip stub passes through a slot 47 that is disposed within the spindle 38 and a slot 48 that is disposed within one side of the shell 42 so that as the sleeve is raised and lowered the trip stub 46 may freely move within the respective slots 47 and 48. A live rubber tee 49 is removably secured to the upper end of the sleeve, the lower end of which rests directly upon the upper side of the collar 43. The reacting element 40 is sensitive but of sufficient strength to maintain the sleeve raised, with the trip stub 46 in place and in the upper end of the slots 47 and 48. When the golf ball is placed upon the upper receiving end of the tee 49 it depresses the sleeve so that the trip rod 46 is in the lower end of the slots 47 and 48.

The spindle 38 is hollow, as illustrated at 50, for the major portion of its length and from its upper end to the position of the slot 47 disposed therein; this opening 50 provides an escapement for air, to prevent the development of an air pressure within the cylinder 51 when the sleeve and tee are lowered relative to the spindle 38. A pair of arms 52 and 53 are hingedly secured about a journal pin 54. The journal pin 54 is rockably disposed within a bracket 55, as illustrated in Fig. 5, and is adapted for having lateral movement imparted thereto. The arm 52 is fixedly secured to and outwardly extends from a base 56.

The invention is primarily intended to work in a single cycle of operation, but in the event that a ball is slow in reaching the stop disposed at the receiving end of the feeding station, the device will continue to work in continuing cycles of operation until a ball is finally delivered into playing position upon the elevated tee at which time the recurring cycles will be completed.

The arm 52 is normally out of alignment with the alignment surfaces 57 and 58 of the balls, as the same normally travel along the rails 8 and 9. The arms 52 and 53 are normally spaced apart sufficiently to permit the arms being placed at either side of the ball to be engaged thereby. The arm 53 is secured upon its one end to the shaft 54, and a reacting element as a coil spring 59 has a tendency to impart a lateral movement of the arm 53 toward the arm 52 with sufficient force, when the same is permitted to engage the ball, to be raised to teeing position to move the ball out of alignment with the adjacent balls.

Eyes are formed, in the ball engaging end, of each of the arms and when the ball is made to engage within the respective eyes, the ball is moved laterally of the rails and of the cushioned stop 10, and also out of alignment of a center line drawn between the respective spaced rails 8 and 9, when the ball to be teed is then in position for being raised into teeing position.

The arm 53 is directly secured to the shaft 54 and the shaft 54 has a longitudinal movement imparted thereto, as the arm 53 has a lateral movement imparted thereto through the action of the spring 59. Likewise when a longitudinal movement is imparted to the arm 53.

The assembly hingedly disposed about the shaft 54 is preferably so assembled that the weight mass will be supported on the outside of the shaft. When so assembled gravity will have a tendency to return the assembly to the position for picking up a ball in the next cycle of operation.

The chain 60 is preferably made from a beaded chain to afford greatest flexibility to the chain and to adapt the same for the work to be done in a device of this character.

As the cam 28 is rotated for one cycle of operation, the arms are momentarily lowered into ball engaging position and as the cam is further rotated the arms are permitted to engage the ball, move the same out of engagement with the stop and to then raise and deposit the same upon the receiving station.

A cam segment 63, illustrated in Fig. 9, is disposed upon the under side of the cam 27. A cam engaging wheel 64 is rotatably mounted upon the cam engaging end of the shaft 54 and when the arms are raised, until the ball being carried thereby is placed in registry with the tee. The cam engaging wheel 64 engages the cam segment 63 and the cam is rotated, imparts a longitudinal movement to the shaft 54 and a lateral movement to the arm 53, to thereby release the ball being carried by the arms. When released the ball is deposited upon a cushioned receiving yoke 65. This places the ball to be teed in precise position and alignment with the tee and to be raised when the tee is raised. The lateral movement that was imparted to the arm 53 places the arm in registry and is made to engage with a locking latch 66, illustrated in Fig. 8. The locking latch 66 is rockably disposed about a journal pin 67 and the latch is maintained in normal position and alignment through a spring 68 disposed about the shaft, as illustrated in Fig. 9. The locking latch maintains the respective arms spaced apart sufficiently to permit the arms to engage at either side of the next ball to be teed and when the arms are lowered into initial ball engaging position, one end 69 of the locking latch, engages the trip 70, as illustrated in Fig. 8 and engages the arm to thereby permit the reacting element, as the coil spring 59, to impart a lateral movement to the arm 53 and to thereby engage the next ball to be teed between the arms as heretofore described.

A cushioning spring 71, as illustrated in Fig. 10. is secured upon its one end, to the plate 56. The cushioning spring 71 is placed in registry with the bearing block 36 and serves the dual purpose of absorbing the momentum imparted to the arms and the ball and to simultaneously return the arms out of maximum advanced position, after the ball has been released and to start the same on the return cycle to the position of ball, or engaging position of the next cycle of operation.

A supporting arm 72 is removably secured to the upper end of the column 35 and a shaft 73 is disposed therein about which the pulley 61 rotates. A bracket 74 extends to one side of the supporting arm 72 and the yoke 65 is secured thereto. The yoke preferably has an up-turned loop 75 that engages about a positioning screw 76, to thereby permit the adjustably positioning of the yoke relative to its supporting members.

A mercurial tube 77 is secured to a support 78

by having a band 79 pass therearound which is directly secured to the support 78. Electric terminals 80 and 81 are associated with the mercurial tube 77 and an electric conductor 82 and 83 lead to the respective terminals to thereby complete the electric circuit, through the mercury and the mercurial tube, as the tube is rocked. The electric conductor leads from the mercurial tube to the electric prime mover.

An arm 84 normally rides upon the trip stub 46 and when the trip stub 46 is in full lowered position, the electric current is broken. When the ball is removed from the tee support, the reacting element 40 raises the associated elements and the stop stub and tips the mercurial tube, to complete the electric circuit therethrough, and to energize the prime mover for one cycle of operation. In doing so, the arm 85 is lowered and the electric contact is completed. An arm 86 is secured to one of the rotating elements adapted to rotate about the shaft 16 and when the same engages beneath the arm 85, that is placed in registerable alignment therewith, the mercurial tube is again rocked to break the electric circuit passing through the electric prime mover, simultaneously therewith the arm 84 is lowered to again be placed in registry with the trip stub 46.

A flexible connection as a chain 60 is secured upon its one end to the plate 56 and is trained about a pulley 61; the oppositely disposed end of the chain is secured to a supporting bracket 62. The supporting bracket 62 is directly secured to the bearing block 36, as illustrated in Fig. 6.

Referring to Fig. 14, as the tee supporting assembly nears the top of its stroke, the cushioning spring 87 is contacted and simultaneously therewith the wheel 29 engages a depression 88, disposed in the camming surface 28 and precisely positions the teeing assembly and the ball for play.

In the beginning of each cycle of operation of the device it is necessary to energize the prime mover, and at the completion of each cycle of operation it is necessary to stop the prime mover. The making and breaking of the electric current for this purpose has heretofore been described. In order to precisely stop the operation of the driving mechanism, I have found splendid results are to be obtained wherein the driving mechanism is momentarily disconnected from the driving shaft of the speed reducer. A supporting arm 89 upwardly extends from the base, or the frame of the prime mover and a journal pin 90, as illustrated in Fig. 6, is disposed in the bifurcated end of the same.

A bell crank 91 is journaled about the journal pin 90 and the lower end of the bell crank arm is disposed in registry with the actuating lug 92, that is disposed upon the outer surface of the primary cam 27. The pulley 15 is loosely mounted upon the shaft of the speed reducer and a pin 93 downwardly extends therefrom. A driving arm 94 is secured to the shaft of the speed reducer and as the shaft and arm are rotated, the driving arm connects with the driving pin 93 and rotates the assembly disposed thereabove.

A clutch collar 95 is disposed upon the upper end of the speed reducing shaft and the bell crank 91 is bifurcated at its clutch engaging end. The points of the bifurcated arm engage with the groove disposed within the clutch collar 95 and when the bell crank is momentarily actuated through the action of the actuating lug contacting the same, the bell crank is rocked about its journal pin 90 and the clutch and pulley assembly are thereby lifted, so that the driving pin 93, is drawn upwardly out of the path of movement of the driving arm 94, at which time driving energy will not be imparted to the mechanism normally driven by the driving element 26.

In devices of this kind, it is highly desirable that the club of the player may not be made to engage, or forcibly contact any resistance except that of the golf ball itself, I have found splendid results are to be obtained wherein a live rubber sheet 96 is superposed on the supporting surface 94, to provide an air cushion 98 between the live rubber sheet 96 and the supporting surface 97. The sheet 96 is preferably supported at its ends only and is placed under substantial tension.

A hole 99 is disposed therethrough, that is in normal registry with the tee and the ball. The hole 99 being made sufficiently large to permit the free passing of the ball to be played therethrough. When the player makes a low swing with his club, the rubber sheet will be depressed by the club. The low swung club will also strike the ball supporting end of the tee at which time no shock will be noticed by the player, or no damage will be done to the playing club.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

What I claim is:

1. In a device of the class described, the combination of a base, an electric prime mover disposed upon the base, a speed reducer associated with the prime mover and a shaft upwardly extending from the prime mover, a driving pulley secured to the speed reducing upwardly extending shaft, a stub shaft removably secured to the base, cylindrical cams spaced apart and secured to the stub shaft, a driving pulley secured to the stub shaft, a driving element trained about the respective pulleys, a vertical column secured to the base, a bearing block reciprocably disposed upon the column, a shaft outwardly extending from the bearing block, wheels disposed upon the shaft and adapted to engage the camming surfaces disposed upon the cylindrical cams, and means for rotating the cylindrical cams for one complete revolution at each energizing of the electrical prime mover.

2. In a device of the class described, the combination of a base, a coacting electric prime mover and a speed reducer mounted upon the base, means for automatically energizing the prime mover, coacting cylindrical cams rotatably mounted upon a shaft vertically extending from the base, means for rotating the cams for one revolution at each energization of the electric prime mover, a bearing column upwardly extending from the base, a bearing block slidably mounted upon the column and means operatively engaging the bearing block with said cams for imparting an up and down movement of the bearing block at each rotation of the cylindrical cams.

3. In a device of the class described, the com-

bination of a prime mover, a pair of rotatable cylindrical cams and a column, mounted upon a common base, automatic means for energizing the prime mover to impart a cycle of operation to the cams, a bearing block slidably mounted upon the column, and means operatively engaging the bearing block with said cams for raising and lowering the bearing block at each rotation of the cylindrical cams.

4. In a device of the class described, the combination of a prime mover, cylindrical cams, a column having a bearing block associated therewith and a pair of ball engaging arms mounted upon a common base, automatic means for energizing the prime mover for a cycle of operation, means operatively connecting the prime mover and the cylindrical cams for rotating said cylindrical cams, raising and lowering the bearing block and for raising and lowering the ball engaging arms at each energization of the prime mover.

5. In a device of the class described, the combination of a base, a stop upwardly extending from the base, a pair of spaced rails terminating adjacent the stop, a column upwardly extending from the base, a bearing block reciprocal relative to and disposed on the column, coacting elements for raising and lowering the bearing block as a cycle of operation, a foot outwardly extending from the bearing block a spindle upwardly extending from the foot, a sleeve adapted for being reciprocated longitudinally of the spindle within limited movements, a tee superposed the sleeve, and a coacting reacting element disposed between one end of the sleeve and the bearing block, said reacting element adapted for allowing the depressing of the sleeve for its full movement longitudinally through the weight of a golf ball when placed upon the tee, in one direction and for imparting the full movement of the sleeve relative to the spindle in the other direction when the ball is removed from the tee.

6. In a device of the class described, the combination of a base, a stop upwardly extending from the base, a pair of spaced rails adapted for conducting balls to the stop, a pair of arms hingedly mounted with respect to the base, means for causing the arms to grip the balls one at a time and lift them to an elevated position and for releasing the same when in full raised position and for returning the arms to registry with the next ball stopped by the stop and disposed upon the spaced rails.

7. In a device of the class described, the combination of a base, a stop disposed adjacent the ends of tracks mounted on the base, arms spaced apart, means for moving one of the arms toward and away from the other of the arms and for raising and lowering the arms as a cycle of operation and for engaging a ball and releasing the same in each cycle.

8. In a device of the class described, the combination of a stop, means for conducting balls against the stop by gravity, expansible means for gripping the ball next against the stop and for elevating the same and means for releasing the grip of said expansible means on the ball when raised.

9. In a device of the class described, the combination of a means for precisely positioning a golf ball for being teed, automatic means for raising the golf ball into registerable alignment with a tee, automatic means for lowering the tee to receive the ball and for elevating the tee and the golf ball to playing position in recurring cycles as the balls are played from the tee, said means including a rotatable cam and means operatively engaging the tee with said cam.

10. In a device of the class described, the combination of automatic means for elevating golf balls into registry with a live rubber tee as the tee is lowered, and means for completing the cycle of raising the ball to registry with the tee and for raising the tee and the ball to playing position as the balls are played, said last mentioned means including a rotatable cam and means operatively engaging the tee with said cam.

11. In a device of the class described, the combination of a base, a prime mover superposed the base, a cylindrical drum having a camming surface rotatably mounted relative to the base, an actuating lug associated with the cylindrical cam, a speed reducer associated with the prime mover having a driven shaft upwardly extending therefrom, a driving pulley and a clutch assembly associated with the shaft, an arm, a bell crank rockably disposed relative to the arm, one end of the bell crank associated with the clutch disposed upon the shaft of the speed reducer, the oppositely disposed end of the bell crank being in registry with the actuating lug disposed upon the cylindrical cam and an arm secured to and outwardly from, the shaft of the speed reducer and means adapted for being placed into and out of registry with the arm, to break and complete the driving connection with the arm, when the actuating lug is out of registry and registers with the bell crank.

12. In a device of the class described, the combination of an electric prime mover, a speed reducer associated with the prime mover, a shaft upwardly extending from the speed reducer, a driving and clutch assembly associated with the shaft, an arm fixedly secured to the shaft, a pin secured to the assembly disposed upon the shaft, the pin normally being in registry with the arm, and means for raising the assembly and the pin out of registry with the arm.

13. In a device of the class described, the combination of a prime mover operatively engaged with a speed reducer, a driven shaft extending outwardly from the prime mover, an arm fixedly disposed upon the shaft, a pulley rotatably mounted upon the shaft above the arm, a pin depending from the pulley in the path of movement of the arm, and automatic means for placing the pin into and out of registry with the arm.

14. In a device of the class described, the combination of a prime mover, a driven shaft extending outwardly from the prime mover, a driving assembly rotatably mounted on the shaft and automatic means for temporarily engaging the driving assembly with said driven shaft.

15. In a device of the class described, the combination of a prime mover, a shaft driven by the prime mover, a driving assembly rotatably mounted on the shaft and comprising a pulley and clutch assembly, the driving assembly being normally driven by the shaft, and automatic means for releasing the driving assembly from driving engagement with the shaft.

16. In a device of the class described, the combination of a prime mover, a pair of cylindrical cams and a column mounted upon a common base, automatic means for energizing the prime mover, said automatic means comprising a tiltable mercury switch to impart a cycle of

operation to the cams, a bearing block slidably mounted on the column, and means operatively connecting the bearing block with said cams for raising and lowering said bearing block at each rotation of the cylindrical cams.

17. In a teeing device, a movable golf ball tee, a movable member adapted to deliver a golf ball to said tee, means for simultaneously depressing said golf ball tee to golf ball receiving position and for raising said movable member to golf ball delivering position.

18. In a teeing device, a movable golf ball tee, a movable member adapted to deliver a golf ball to said tee, means for simultaneously depressing said golf ball tee to golf ball receiving position and for raising said movable member to golf ball delivering position, and means for delivering the golf ball to said movable member before it reaches its raised, delivering position.

JOSEPH LOEB.