

Aug. 27, 1940.

L. GALE

2,212,877

GOLF TEEING DEVICE

Filed Sept. 17, 1938

3 Sheets-Sheet 1

Fig. 1.

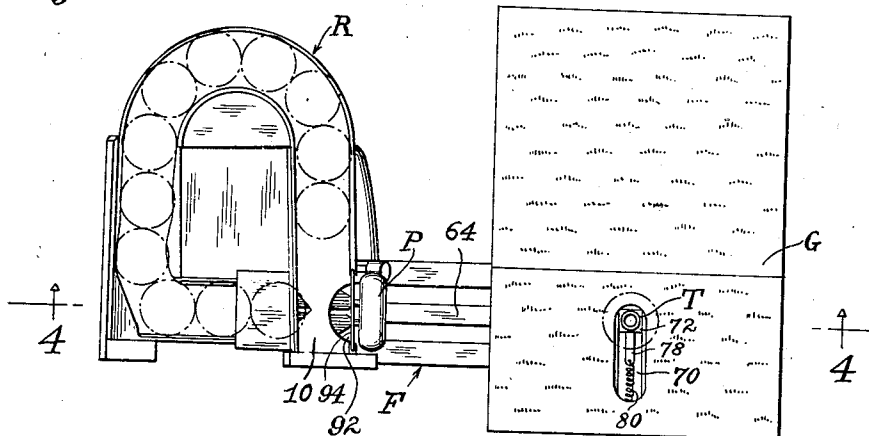


Fig. 2.

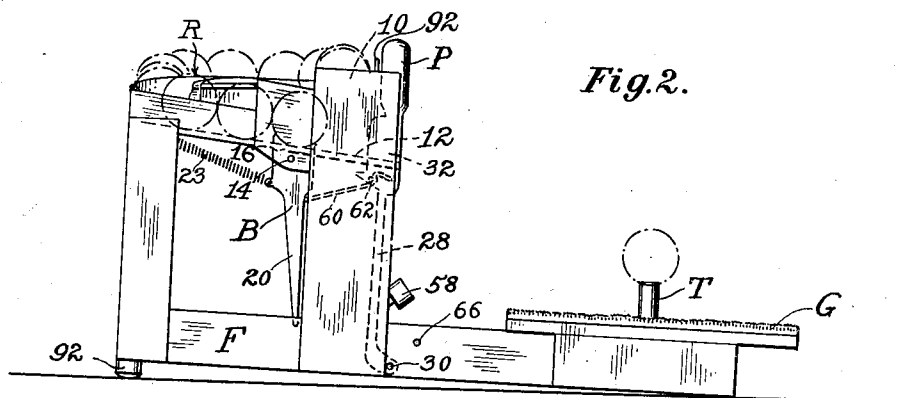
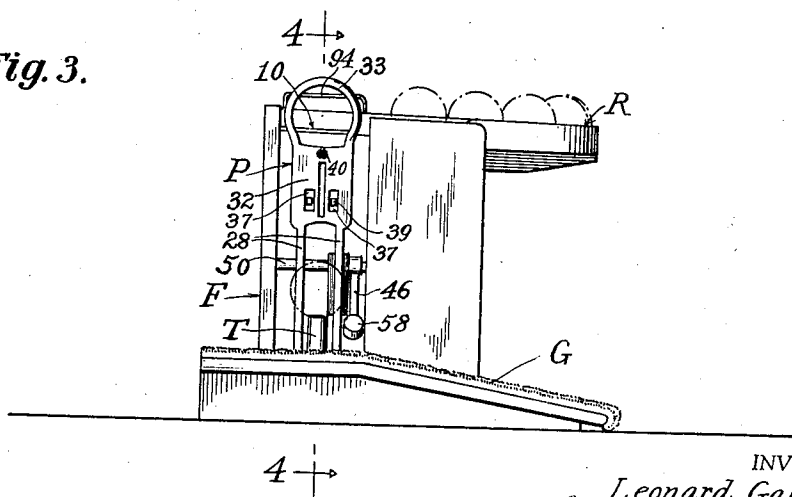


Fig. 3.



INVENTOR.

Leonard Gale

Shuck and Brewster

ATTORNEY.

Aug. 27, 1940.

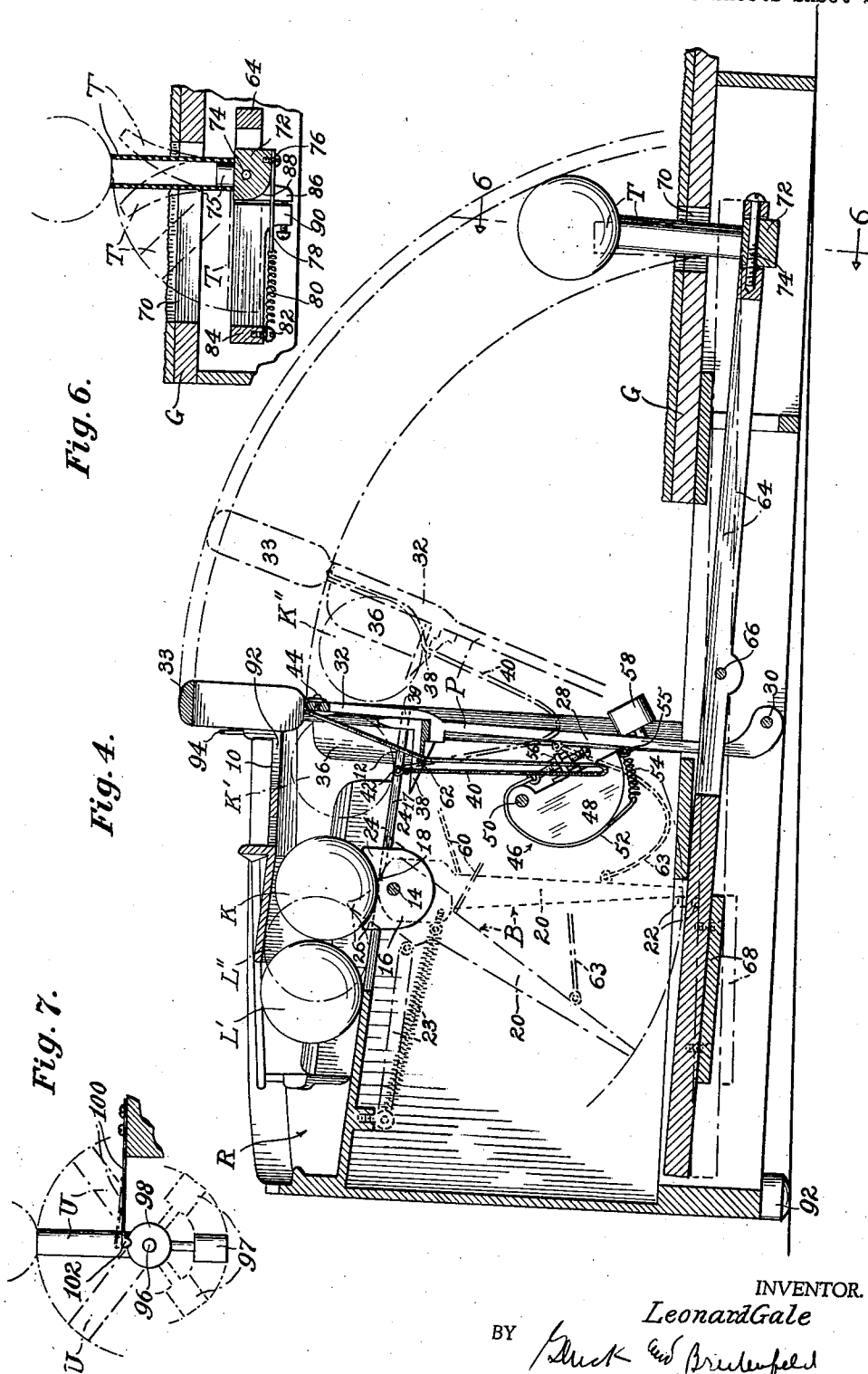
L. GALE

2,212,877

GOLF TEEING DEVICE

Filed Sept. 17, 1938

3 Sheets-Sheet 2



INVENTOR.

Leonard Gale

BY

Shuck and Brinkfield

ATTORNEY.

Aug. 27, 1940.

L. GALE

2,212,877

GOLF TEEING DEVICE

Filed Sept. 17, 1938

3 Sheets-Sheet 3

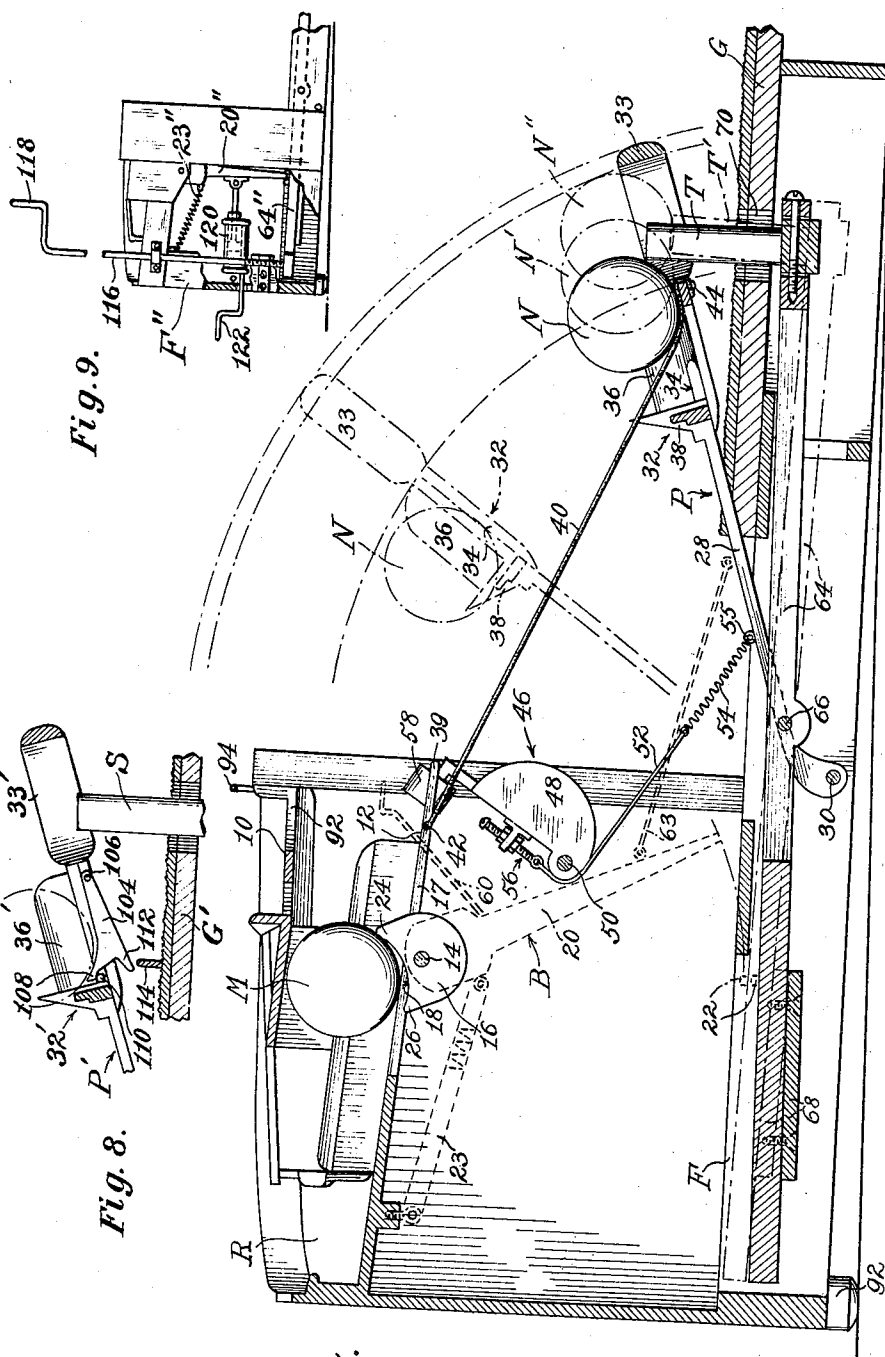


Fig. 5.

Fig. 8.

Fig. 9.

INVENTOR.

Leonard Gale

BY

Shirley E. Butterfield
ATTORNEY.

UNITED STATES PATENT OFFICE

2,212,877

GOLF TEEING DEVICE

Leonard Gale, Jackson Heights, N. Y.

Application September 17, 1938, Serial No. 230,421

7 Claims. (Cl. 273—33)

This invention relates generally to golf ball teeing machines, and, more particularly, to machines of that character that are portable and are operated automatically by the force of gravity.

Golf ball teeing machines as heretofore constructed, have many disadvantages and are open to many objections, that may here be briefly pointed out.

Most of these machines are not portable, so that a machine is required for each particular locality. In their installation it is further necessary to excavate the ground to accommodate their working parts. Besides adding to the cost of installation, this has the disadvantage that the surrounding soil has a tendency to work its way into the machine and to interfere with its operation.

Most of the machines heretofore constructed are not automatic, that is, they do not present balls to the player without some action on his part, such as stepping on a foot pedal. Where, on the other hand, they are automatic in their action, they are extremely complex in construction and require power for their operation, which naturally limits their installation to places where power is available. Again in many automatically operating machines no provision is made for controlling the speed of their operation, so that a golfer who is accustomed in practice to deliver his strokes in rapid succession may find that he has to wait an appreciable time after each stroke before the next ball is presented to him.

Many of these machines are adapted only for right handed players.

While the tees of most of these machines are an integral part thereof, other types have the tee separate, so that it must be individually installed, with the attendant likelihood of improper relative positioning. The tees are often rigid and unyieldable, so that when accidentally struck, they will break or will damage the player's club, or they may be so constructed that resistance to the unimpeded movement of the ball therefrom is offered. Again the tees may not be readily adjustable in height, or the adjustment may be limited. In most cases no provision is made for accurately positioning the ball on the tee.

In my improved machine provision is made by which these objections and disadvantages are overcome.

It is among the general objects of my invention to provide a golf ball teeing machine that is efficient, reliable, simple in construction and low in cost of manufacture and maintenance.

Among the more particular objects of my in-

vention is the provision of an improved golf ball teeing machine that is portable, and that is of the surface type, that is, one that may be set on the ground and does not require excavation, one in which the tee is integral with the machine, one that is automatically operable by the force of gravity, one that has a large capacity for balls, and further, one that may be used with a back stop and ball return, and one that may be used by either right handed or left handed players.

Among the more particular objects of my invention is further the provision, in an automatically operating golf ball teeing machine, of means whereby the machine is set by the weight of a golf ball on the tee, and whereby the machine is caused to operate when the ball is removed from the tee, and also the provision of means for varying the speed of operation thereof.

Among the more particular objects of my invention are also the provision in a golf ball teeing machine of means for positively centering the ball on the tee, and the provision in a golf ball teeing machine of a yieldable tee that will offer no obstruction to the movement of a ball positioned thereon when it is struck, and one that will fall away if accidentally struck by the golfer's club.

These objects and such other objects as will hereinafter appear or be pointed out, are attained in the illustrative embodiment of my invention shown in the drawings, in which:

Figure 1 is a plan view of my improved golf ball teeing machine;

Figure 2 is a front elevational view thereof;

Figure 3 is an end elevational view thereof;

Figure 4 is a sectional view substantially on the line 4—4 of Figures 1 and 3, looking in the direction of the arrows and showing the machine in the initial stages of its cycle of operations;

Figure 5 is a view similar to Figure 4, but showing other stages in the cycle of operation of the machine;

Figure 6 is a sectional view substantially on the line 6—6 of Figure 4, looking in the direction of the arrows;

Figure 7 is a fragmentary detail view showing a modified form of mounting of the tee;

Figure 8 is a fragmentary detail view showing a modification of the mechanism by which a golf ball is placed on the tee; and

Figure 9 is a fragmentary view similar to Figure 2 showing additional features that may be used with my invention.

Referring now to the drawings in detail, the illustrative embodiment of my invention is shown

as in the form of a portable unit comprising a frame designated as a whole by F and carrying a ball race R, a ball feeding trigger B, a ball positioning arm P and a tee T.

5 The general arrangement of these parts appears clearly from Figures 1, 2 and 3, from which it will be observed that the ball race R is supported at the top of the frame F, while the ball feeding trigger B is positioned below the race with its upper portion extending into the race, 10 and that the ball positioning arm P is pivoted at the bottom of the frame F and can swing from a position in which it is substantially vertical and in which its upper or ball carrying portion is on a level with the ball race R to a substantially horizontal position in which its ball carrying portion is on a level with the tee T, which latter is 15 mounted for pivotal movement, as will hereinafter be fully described, in the lower portions of the frame F.

20 The ball race R needs no further description than to say that it is in the form of an inclined guide channel down which the ball indicated in dot and dash lines in Figures 1 and 2, rolls, im- 25 pelled by gravity, so as to enter the ball feeding trigger B, which forms an obstacle or stop near the end of the race and serves to feed the balls to the ball positioning arm one at a time. The race has been shown as disposed substantially 30 in the form of a helix or spiral having one turn, and the highest point 10 of the race is disposed above its lowest point 12, whereby a saving of space is effected. Obviously this idea can be 35 carried further than shown by adding more helical turns to the ball race, and the only extra space needed would be in a vertical direction. In this manner the capacity of the ball race could be increased indefinitely. Obviously, also, 40 the race might be extended horizontally with the end in view of increasing the capacity of the ball race or of connecting it to a ball return, such as might be associated with a back stop.

45 The ball feeding trigger B is shown in Figures 2, 4 and 5 as pivotally mounted on the frame F at a point 14 positioned slightly below the ball race. It is provided with a short upper portion 16 which extends into the ball race R, through a slot 17 in the bottom thereof, and has a concavely contoured recess 18 therein that is adapted 50 to seat a ball (see Figures 2, 4) and to retain it when the trigger B is in its middle position.

55 The trigger is further provided with a downwardly extending arm 20 adapted to engage a trigger latch 22 the operation of which will hereinafter be more fully explained, and which is adapted to hold the trigger in its ball-seating mid position against the action of means, such as a tension coil spring 23 fastened at one end to the arm 20 and at its other end to the frame 60 F, and tending to move the arm 20 as shown in Figures 2, 4 and 5, in a clockwise direction.

65 When the trigger B is released from the latch 22 and moves clockwise into the position shown in dot and dash lines in Figure 4, the high part 24 of its upper portion 16 dips below the floor of the race and permits the ball K seated in its recess 18 to roll further down the race as indicated at K and to enter the ball positioning arm P as will be more fully explained hereinafter. At 70 the same time its other high part 26 rises and acts as a stop for the next succeeding ball (see Figure 4), which will have moved from the position L' to the position L''.

75 When on the other hand the arm 18 of the trigger B is moved counterclockwise (by means

to be described hereinafter) into the position shown in Figure 5, its high part 26 moves below the floor of the ball race R while its high part 24 rises, with the result that a ball positioned as at L'' in Figure 4 will enter the recess 18 of 5 the trigger as shown at M in Figure 5 and will remain seated while the trigger assumes its mid-position and will be maintained in its seat until the trigger is moved into its feeding or discharging position by clockwise movement of the 10 arm 20 thereof, as shown in Figure 4.

15 The ball positioning arm P will next be described. This arm has been shown in the illustrative embodiment as comprising a pair of parallel bars 28 pivoted at one end to the frame F as indicated at 30 and carrying at their other ends a cradle 32 adapted to receive balls fed from the trigger B, and a ball positioning loop 33 serving to assure the accurate placing of balls on 20 the tee T.

25 The cradle 32 comprises a runway 34 shown as flanked on both sides by guards 36 that prevent lateral movement of the ball, and having a transverse abutment 38 at its lower or inner portion. Movement of the arm P is limited by a 30 flexible member, such as a string 40 that is fastened to the frame at one end, as shown at 42, and to the cradle at its other end, as shown at 44. The string 40 is so positioned that it lies underneath a ball N (see Figure 5) positioned 35 in the cradle 32, and the parts of the cradle are provided with slots and grooves to accommodate the string when it is slack, whereby the ball will rest on the walls of the cradle and not on the string. As the arm P, however, moves down into 40 its full line position shown in Figure 5 the string becomes taut and gives the ball a forward and upward impulse that will assist the momentum already acquired by the ball as a result of the downward swing of the arm P, to cause the 45 ball to move along the cradle and successively into positions such as N' and N'' in Figure 5. In the latter of these positions the ball is shown seated on the tee, which because of the pressure of the ball against it is caused to move from the position shown in full lines in Figure 5 to the position shown in dot and dash lines at T'. The construction permitting this movement of the tee will be described hereinafter.

50 The ball positioning loop 33 is instrumental in causing the ball to assume its position N'' of Figure 5 on the tee, since it stops the forward movement of the ball at such a point that the ball comes to rest on the tee. It will be observed that the loop 33 is so proportioned that after 55 the ball is seated on the tee the arm can move upward without disturbing the ball.

60 The cradle 32 is further provided with openings 37 (see Figure 3) into which protrude the ends 39 (see Figures 1, 4 and 5) of the lower end portion 12 of the raceway R, and when the machine is in the initial position of Figure 4, the abutment 38 of the cradle 32 is positioned underneath these ends 39. Thereby the ball may roll smoothly from the raceway into the cradle. 65

70 At 46 I have shown means by which the arm P is caused to return into its vertical position after a ball has been discharged from the cradle 32. This means is in the form of a counterpoise 48 pivoted at 50 to the frame F of the machine and 75 adapted to be displaced from its position of rest as shown in Figure 4 by the movement of the ball positioning arm P, the motion of which is transmitted to the counterpoise 46 by a flexible and resilient connection, such as the strap 52 and the

tension spring 54, connected at one end to the counterpoise and at the other end to the arm P as indicated at 55. The connection to the counterpoise is shown adjustable, as indicated at 56, the adjustment being intended to effect a greater or less tilt of the counterpoise 48 about its fulcrum 50 and thereby to increase or decrease the force it exerts on the arm P.

It will be observed that the fulcrum 50 is shown as positioned at one end of the counterpoise 48, and that the latter is provided with a semicylindrical face, portions of the curved side of which are engaged by the strap 52. As a result of this construction it will be seen that as the counterpoise 48 tilts about its fulcrum 50, its moment about said fulcrum changes, and at the same time the lever arm about the fulcrum 50 of the force acting along the strap 52 and tending to pull the arm P into its vertical position changes because of the changing arc of contact of the strap 52 with the semi-cylindrical contour of the counterpoise.

It will further be observed that the counterpoise 48 becomes effective to act on the arm P only when the strap 52 becomes taut, and that the point at which this takes place can be regulated by the arrangement 56.

At 58 is shown an auxiliary weight movable with the counterpoise 48, and this provides another convenient way of modifying the effect of the counterpoise, since by adjusting the position of the weight 58, or by replacing it by other weights weighing more or less, the location of the combined center of gravity of the counterpoise 48 and the weight 58 may be changed.

One effect of the arrangement just described is to cause a slowing up of the arm P as it approaches its lowermost or ball placing position.

Latch mechanism for holding the arm P in its vertical position is shown in the form of a latch member 60 carried by the trigger B and adapted to engage a pin or lug 62 carried by the arm P. These parts are shown in dotted lines in Figures 4 and 5.

A flexible connection between the arm P and the trigger arm 20 is shown at 63, and it will be seen from Figure 4 that this connection acts as a stop limiting the movement of the trigger arm 20 to the left, and that as the arm P moves to the right, it will pull the trigger arm 20 also to the right, as appears from Figure 5.

It will further be seen that due to this connection between the arm P and the trigger arm 20, the spring 23 aids the counterpoise 46 in moving the arm P back into its vertical position.

From the foregoing description it will be understood that the ball positioning arm at the beginning of a cycle of operations will be in its vertical position as shown in Figure 4, and will remain so, until, by mechanism to be described the ball-feeding trigger B releases the latch 60 and is caused to discharge a ball (K', Figure 4) which runs down the raceway R, and when it reaches the position K' gives an impulse to the arm P, which moves forward carrying the ball with it, the latter being supported on the abutment 38 of the cradle 32 of the arm P. One position of the arm P, reached a short time after it commences to move, is shown in dot and dash lines in Figure 4, the ball being indicated at K''.

As the movement of the arm P, which is due to the impulse given to it by the ball, added to the weight of the arm P (the effect of which increases as the arm moves out of its vertical position), and the weight of the ball, continues,

the arm P pulls the trigger arm 20 to the right and the strap 52 becomes taut, after which the counterpoise arrangement 46 will exert a pull in a direction opposing the downward movement of the arm P, and consequently the movement of the arm will slow up. The movement of the arm P continues until the ball is placed on the tee, as indicated in Figure 5, after which the counterpoise arrangement overbalances the arm P, which no longer carries the ball and gives it an impulse which will cause it to rise into its vertical position, in which it will be held by the latching arrangement 60, 62, already described. The trigger arm 20, that carries the latch 60 is held in its latching position by the trigger latch 22 already described, and which functions as will be described hereinafter.

The tee T is shown positioned on one end of a lever 64, having its fulcrum at 66 and weighted, as at 68 so as to cause the tee to rise into the full line position of Figure 5 when no ball is resting on it, suitable stops being provided to limit the amount of rise. When a ball is positioned on the tee, as in Figure 5, its weight will counterbalance the weight 68 and cause the lever 64 and the tee T to sink into the full line position of Figure 4 (or the dot and dash line position of Figure 5), the amount of sinking being limited by suitable stops.

When the tee is in its depressed position the trigger latch 22 will be in a raised position in which it will lie in the path of and engage the trigger arm 20, as in the dotted line position of the latter in Figure 4, whereas, when the tee is in its raised position the trigger latch 22 is in a depressed position in which it is ineffective.

The tee T is shown as surrounded by a teeing platform G having a portion raised slightly above the bottom of the machine, and an inclined portion leading up to it, and serving to simulate the green and more nearly approximate actual conditions. To increase the illusion it may be covered, as indicated, by a material suggesting grass, such as green pile fabric.

The tee is made of yieldable flexible material and is mounted to swivel on a horizontal axis in the direction of the stroke of the golf club. In order to permit of this swivelling the platform G is shown as provided with a slot 70 through which the tee may move into positions below the platform, as shown in Figure 6.

The details of the pivotal mounting of the tee will be understood from Figure 6 in conjunction with Figures 4 and 5.

In Figure 6, the tee T has been shown as constituted by a piece of rubber tubing carried on a piece 72 pivotally mounted as at 74 on the lever 64. To effect the mounting of the tube the lower end thereof is shown as slipped over a projection 75 on the piece 72. The tube is therefore readily deformable through substantially its entire length and will flex readily in any direction when struck by a golf club, even when it does not move about the pivot 74. In Figure 6 I have indicated in dot and dash lines several deformed positions of the tee. Other dot and dash line positions indicate positions assumed by the tee as it moves about the pivot 74.

The mounting of the tee on the projection 75 permits its ready replacement, and has the advantage that by using various lengths of rubber tubing, adjustment of the vertical height of the tee is readily effected.

In order to cause the tee T to return into its erect position after the tee has "fallen away" by

movement about the pivot 74, I have shown it connected at 76 to a flexible strap 78 connected to a tension spring 80 fastened at 82 to an extension 84 of the lever 64. As the tee moves about the pivot 74 in a counterclockwise direction as viewed in Figure 6 the point 76 of the strap moves to the right, and the strap 78 is flexed over the surface of the piece 72, which may be of curved contour where the strap 78 touches it as shown at 88, and the tension of spring 80 is increased.

Shortly after the deflecting force has spent itself, the tee therefore rights itself and assumes an upright position determined by a projection 86 of the piece 72 which touches an abutment on the lever 64. Such an abutment is shown in the form of a screw 90, and by adjusting this screw, the position assumed by the tee T may be varied.

At 92 I have shown a pair of legs by which one end of the machine is raised from the ground. Such legs may be found of advantage for particular purposes such as obtaining a desired inclination of the parts or to raise the frame from the ground, whereby it will rest more firmly on uneven ground.

The details of the construction of my machine being understood a summary of its cycle of operations will be given.

After golf balls have been placed in the ball race R, as indicated in Figures 1, 2 and 3, the machine is ready for operation. Before its action can become automatic, it is necessary to have a ball in place in the recess 18 of the ball feeding trigger and another ball on the tee. This position is shown in Figure 4, in which the ball K has the position on the trigger referred to, while another ball is shown seated on the tee. In order to attain this position after a supply of balls is positioned in the raceway, the arm P may be moved manually to its lowered position and released. Another method that may be used is to feed a ball into the arm P by introducing it into the cradle 32 through the loop 33 when the arm is in the full line position of Figure 4. This may be done by introducing a ball into the loop from the right, after which it will pass through the loop 33 and through a recess 92 in the floor of the portion 10 of the raceway and underneath the guard rail 94, which holds the balls in the portion 10 of the raceway, and drops into the cradle 32, after which the arm begins to function.

Assuming now that the parts are in the position of Figure 4, if the golf ball is removed from the tee in any manner (as by an impulse from a golf club), the tee will rise and the trigger latch 22 will sink, releasing the trigger B, which will move into the dot and dash line position of Figure 4, releasing the arm P from the latch 60, 62, and also releasing the ball K, which rolls into the ball positioning arm P. The latter moves into its ball placing position of Figure 5, and as it does so pulls the trigger arm 20 into the position shown in Figure 5. The ball positioning arm P rises, as already explained, after the ball carried by it is deposited on the tee, which is depressed by the weight thereof, with the effect that the trigger latch 22 rises and limits the clockwise movement of the trigger B to its mid-position as shown in dotted lines in Figure 4. As the arm P reaches its vertical position the latch 60 carried by the trigger arm 20 engages the pin 62 on the arm, which is thereby retained in its vertical position.

The machine has now completed its cycle and is in its initial position of Figure 4.

Should it be found that the position of the tee is too high for the player, my invention also contemplates the use of an auxiliary platform on which the player can stand. The same result can be attained by placing the machine in a hollow, either natural or artificially produced. Such and similar problems arising in the course of using the machine will be readily solved by those using it and further discussion thereof is believed to be unnecessary.

In Figure 7 I have shown a mounting for a tee U which will permit the tee to move in either direction from a normal vertical position to which the tee will return automatically when displaced therefrom. For this purpose the tee is shown as mounted on a horizontal pivot 96 and a weight 97 carried in fixed relation to the tee U will cause its return to a vertical position when the tee U is displaced therefrom. For quickly bringing the tee U to rest in its vertical position I have shown means in the form of a spring 100 having its nose portion 102 adapted to drop into a notch in a disc 98 which is movable with the tee U.

In Figure 8 I have shown a modified arrangement for securing the movement of a ball from the cradle of the ball positioning arm to the tee. To avoid repetition parts similar to those already described in connection with the main embodiment have been numbered or lettered similarly with the numerals or letters primed, and description of these parts will be omitted. On referring to Figure 8 it will be observed that the string 40 of the main embodiment has been replaced by an ejecting member 104 pivoted at 106 to the cradle 32' and movable within a slot thereof. It is normally positioned underneath the ball, which rests in the cradle 32' as in the main embodiment, and is limited in its downward movement by an extension 108 thereon that engages a stop 110 on the cradle 32'. As the arm P approaches its lowermost position an extension 112 of the member 104 strikes a pin 114 on the platform G' and is raised thereby into position in which it causes the ball in the cradle to roll forward and to mount the tee S.

In Figure 9, which is a view similar to Figure 2, of the left hand portion of the machine, as viewed in Figure 2, I have shown an adjustable stop means whereby the height of the tee may be adjusted. I have also shown means whereby the timing of the operation of the ball positioning arm can be varied, this means being in the form of a time delay whereby the initiation of the movement of the ball positioning arm may be retarded or delayed.

In this figure also parts similar to those of the main embodiment have been similarly lettered or numbered, with the letters or numbers double primed. At 116 I have shown a rod mounted in threaded engagement on the frame F'' of the machine and provided with a handle 118 whereby the rod 116 may be turned so as to raise or lower its lower end, which acts as a stop for limiting the rise of the end of the lever 64'', and thereby determining the vertical height of the tee when a ball is positioned thereon.

At 120 I have shown a time delay device in the form of a dash pot connected intermediate the trigger arm 20'' and the frame F'' of the machine. It serves to delay the movement of the trigger arm 20'' and thereby (through the latter and the ball positioning arm), of the ball po-

sitioning arm. At 122 is shown a handle whereby the dash pot 120 may be adjusted to vary its delaying effect.

I have illustrated in the drawings a machine particularly intended for right handed players. It will be understood that for a left handed player the parts require only a change in relative positioning in a manner that will be obvious to anybody skilled in the art. My invention however contemplates a machine that is capable for use by both right handed and left handed players. To accomplish this purpose all that is required is that the machine be made symmetrical along a central vertical plane running widthwise of the machine, the half to one side of the plane duplicated on the other side of the plane. Such an arrangement of course would provide two inclines on the platform G with a central elevated plateau connecting the two inclines. It will be observed in this connection that the character of the tee T which I employ is such as to permit of either reversibility or double use without any change because the tee will move to perform its intended function regardless of which direction from which it is hit. An example of such a tee has been shown in Figure 7.

While I have herein disclosed one illustrative embodiment of my invention and have described its operation and the manner of its use, it will be understood that it may be embodied in many other forms without departing from the spirit thereof, as will be obvious to those skilled in the art, and it will further be understood that the disclosure herein is by way of illustration merely and is not to be interpreted in a limiting sense, and that I do not limit myself other than as called for by the prior art.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent, is:

1. In a golf ball teeing machine, a pivoted member carrying a trigger latch and a tee at opposite sides of its fulcrum, whereby when a ball is placed on the tee the tee will sink and the latch will rise into its trigger engaging position, an inclined ball race, a pivotally mounted ball positioning arm provided with a cradle adapted to receive a ball and a guard member normally positioned at the discharge end of said race, a trigger provided with a recess adapted in one position thereof to receive a ball, in other positions to retain a ball and in other positions to release a ball positioned therein, said recess being positioned in the path of balls rolling down the race, said trigger latch being adapted to retain said trigger in its ball retaining position, means for moving said trigger into its ball releasing position when the trigger is released from the latch, said ball positioning arm being adapted to move out of its vertical position under the impulse of a ball from the ball race entering its cradle and to continue its movement as a result of said impulse and the weight of the ball, means cooperating with the forward component of the movement of the ball to eject said ball from the cradle and to cause it to move forwardly and to mount the tee when the ball positioning arm reaches the level of the tee, and said guard member prevent-

ing said ball from moving beyond a position on said tee, a counterpoise for causing said ball positioning arm to return to its vertical position after the ball is ejected therefrom, and means for moving said trigger into its ball receiving position when said ball positioning arm is in its ball ejecting position, whereby as the ball positioning arm assumes its vertical position said trigger will move into and be retained by said trigger latch in its ball retaining position, and whereby when said ball is removed from said tee the trigger will be released from the trigger latch and will move into its ball discharging position, whereupon a ball will enter the cradle of said ball positioning arm and initiate a new cycle of operations.

2. In a combination as set forth in claim 1 said ball ejecting means comprising an elongated flexible member of fixed length connected at one end to a point adjacent the discharge end of the ball race and at its other end to the cradle of said ball positioning arm, means to confine one end of said member to positions centrally underneath the ball as it lies in the cradle of said ball positioning arm, whereby when said arm moves away sufficiently from its vertical position said flexible member will become taut and will give said ball a direct forward impulse.

3. In a combination as set forth in claim 1 said counterpoise being pivotally mounted and resilient means for transmitting the force of said counterpoise to said ball positioning arm.

4. In a combination as set forth in claim 1 said counterpoise being adapted to exert a varying pull on said ball positioning arm, said pull being dependent on the relative positions of said counterpoise and said arm.

5. In a combination as set forth in claim 1 a latch carried by said trigger adapted to engage means on said arm to lock it in its vertical position when the trigger is set and to release said arm as said trigger moves into its ball discharging position.

6. A golf ball teeing machine comprising a tee, a raceway along which golf balls are adapted to move by gravity, movable means for receiving balls from said race and depositing them on said tee, and means adapted to become operative when said movable means is in adjacency to said tee to eject said balls from said movable means, said means being in the form of a flexible element normally adapted to be slack and to underlie a ball positioned in said ball receiving means, but to become taut and to cause said ball to move out of said ball receiving means when the latter approaches the tee.

7. In a golf ball teeing machine, a tee, a ball race, a member movable from the ball race to the tee, said member being provided with a cradle within which a ball received from the ball race is adapted to seat while said member is moving from the ball race to the tee, and said member being further provided with a ball locating device and with ejector means adapted to cause said ball to move out of the cradle and onto said tee, said movement being limited by said ball locating device.

LEONARD GALE.