

June 22, 1937.

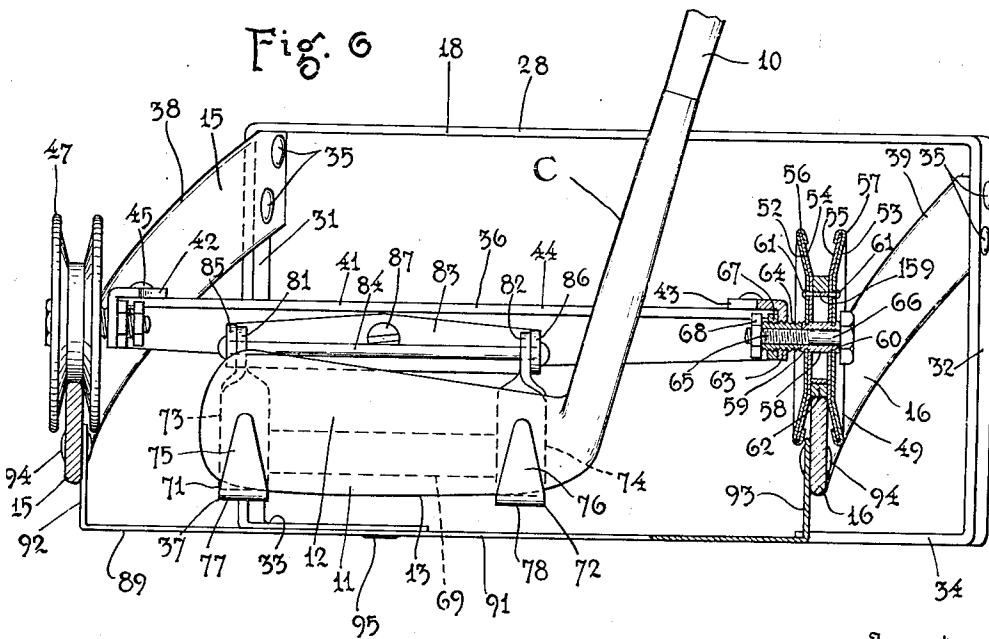
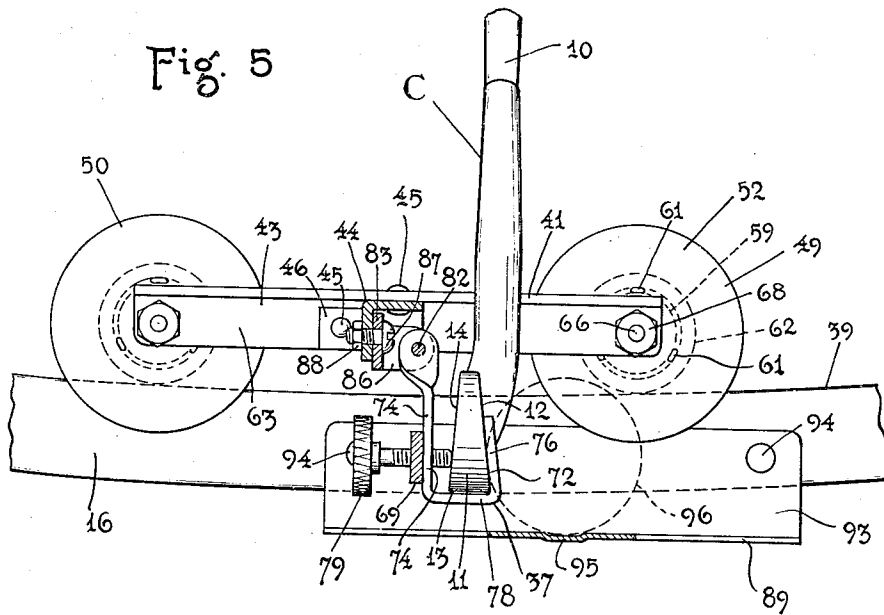
W. EISENBERG

2,084,902

PUTTING DEVICE

Filed Aug. 10, 1934

2 Sheets-Sheet 2



Inventor

William Eisenberg

By *Carroll & Lagaard*
Attorneys

UNITED STATES PATENT OFFICE

2,084,902

PUTTING DEVICE

William Eisenberg, Minneapolis, Minn.

Application August 10, 1934, Serial No. 739,272

11 Claims. (Cl. 273—35)

My invention relates to devices for teaching the stroke of putting in the game of golf and has for an object to provide a device by means of which valuable assistance may be given to the player in the perfection of his putting stroke.

Another object of the invention resides in providing a device by means of which the movement of the putter may be guided during the actual putting of a golf ball.

An object of the invention resides in providing a device by means of which an ordinary putter may be used and by means of which the putter may be guided so as to travel over the proper path.

Another object of the invention resides in providing two spaced rails and in providing a carriage in which the putter is mounted, said carriage being movable along said rails.

A still further object of the invention resides in constructing the rails from bar material and in utilizing grooved wheels on the carriage.

An object of the invention resides in providing the rails with a compound curvature so that the course of the club is directed for a portion of the stroke over both a horizontal and a vertical arc.

A feature of the invention resides in providing end members for the rails, said end members being constructed of bar material and formed to provide a connecting portion for connecting the rails together, legs for raising the rails above the level of the surface on which the device rests, and feet for supporting the entire device upon such surface.

Another object of the invention resides in constructing the carriage of angle members attached to one another to form a composite carriage structure of H shape for supporting the club head.

An object of the invention resides in constructing the wheels in a manner to cause the same to travel over the carriage with a minimum amount of friction and noise.

A feature of the invention resides in providing adjustable supports for journaling the wheels, whereby the wheels may be aligned with the rails on which they run.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawings:

Fig. 1 is a perspective view of a putting device illustrating an embodiment of my invention.

Fig. 2 is a plan view of the structure shown in Fig. 1 with the putter removed.

Fig. 3 is a side elevational view of the structure shown in Fig. 2.

Fig. 4 is a plan view of part of the structure shown in Fig. 2 and drawn to a larger scale.

Fig. 5 is a fragmentary sectional view taken on line 5—5 of Fig. 1.

Fig. 6 is a cross sectional view taken substantially on line 6—6 of Fig. 2.

My invention proper consists of a track indicated in its entirety by the reference numeral A and a carrier B to which a club C is attached. This carrier moves along the track A and guides the club C in the desired path. These various parts will now be described in detail.

In the use of my invention an ordinary putter such as indicated at A may be employed which comprises a shaft 10 having a putter head 11 secured to said shaft in offset relation with respect thereto. The putter head 11 is provided with a face 12 arranged at a slight angle with respect to the axis of the shaft and with a sole 13 issuing angularly from the face 12 and forming an acute angle with said face. The back of the club head is indicated by the reference numeral 14 and is more nearly parallel with the axis of the shaft forming in conjunction with the face 12 a wedge-like structure best shown in Fig. 5. The invention is particularly adapted for use in conjunction with a club such as described, though it can readily be comprehended that the supporting structure may be modified to support other types of putters if found desirable.

The track A consists of two rails 15 and 16 which are constructed of bar material such as known in the trade as flat wire. These rails are bent to give the said rails the desired curvature and are connected together at their ends through two end members 17 and 18. From an inspection of Fig. 3 it will be noted that the rails 15 and 16 are provided with a vertical arc which is designated by the reference numeral 19 so that when the carriage B follows along the said rails, the club head 11 is directed to swing through a pivot located substantially at the wrists of the player. The rails 15 and 16 are further constructed to provide a horizontal arc designated by the reference numeral 21 in Fig. 2 which causes the club head to swing about the player in the back swing so as to produce a stroke which is exceedingly natural for the player and which will produce the best results.

The end members 17 and 18 are constructed of bar material similar to the rails 15 and 16. The end member 17 is bent to form a cross piece 22 and is further bent to provide two legs 23 and 24

depending therefrom. The ends of the rails 15 and 16 are secured to the legs 23 and 24 through rivets 25. The lower ends of the legs 23 and 24 are bent inwardly to provide feet 26 and 27 which rest upon the surface on which the putting device is placed. The end member 18 is similarly constructed with a cross bar 28, legs 31 and 32 and feet 33 and 34, which end member is attached to the other ends of the rails 15 and 16 through rivets 35 and functions in identically the same manner as the end member 17. By means of the two end members 17 and 18 the device can be placed upon the putting surface and when so disposed is at the proper position to guide the club as will hereinafter be more fully explained.

The carrier B consists of a carriage 36 which has attached to it a holder 37 in which the club C is mounted. The carriage 36 travels over the upper edges 38 and 39 of the rails 15 and 16 and serves to guide the club head for movement along the desired path.

The carriage 36 consists of a frame 41 of H shape which is constructed with two parallel frame members 42 and 43 and a cross frame member 44 connected to the parallel frame members intermediate the ends thereof. The various frame members are preferably constructed of angles as shown in Figs. 4, 5 and 6. The angles are secured together through rivets which extend through the flanges of said angles and through tongues 46 bent outwardly therefrom. By means of this construction a composite structure is formed which is extremely light in weight and which is rigid and sturdy in construction.

At the ends of the parallel frame members 42 and 43 are journaled supporting wheels 47, 48, 49 and 50 which are rotatably mounted in a manner to be presently described in detail. Inasmuch as all of these wheels are identical in construction, only the wheel 49 will be described in detail. This wheel is best shown in Fig. 6 and consists of two discs 52 and 53 which are dish-shaped in form. Adjacent these discs are disposed two fibre liners 54 and 55 which are also dish-shaped and which are secured to said discs 52 and 53 through lips 56 and 57 turned over from the marginal edges of said discs. The two discs 52 and 53 are mounted upon a hub 58 which is constructed with shoulders 59 and 60 and by means of which the said discs are secured together. Between the two discs 52 and 53 is provided a drum 59 which is constructed of tubing cut to the desired length. Drum 59 is provided with lugs 61 which issue outwardly from the ends of the same and which pass through the liners 54 and 55 as well as the discs 52 and 53, and which are riveted over upon the outer surface of said discs to hold the drum attached to the discs and to form a rigid and substantial wheel construction. A rubber tire 62 encircles the drum 59 and forms a wearing surface for engagement with the upper edges 38 and 39 of the rails 15 and 16.

The wheel 49 is supported in the following manner: Threaded into the vertical flange 63 of the frame member 43 is a bushing 64. This bushing is tapped to receive the threaded end 65 of a headed screw which serves as a trunnion on which the wheel 49 is journaled through its hub 58. Bushing 64 is held in adjusted position with respect to the flange 63 of frame member 43 through a lock nut 67. Upon the threaded end 65 of screw 66 is another lock nut 68 which holds said trunnion in adjusted position. By means

of this construction the wheel may be adjusted axially with respect to the frame 41 of carriage 36 so as to cause said wheel to properly ride upon the rails 15 and 16. As previously stated, the wheels 47, 48 and 50 are constructed similar to the wheel 49 and the said wheels are journaled in like manner upon suitable trunnions the same as those used for the journaling of the wheel 49.

The holder 37 consists of two hangers 71 and 72 which are connected together through a cross bar 69. The two hangers 71 and 72 are preferably formed of strips of metal bent to provide depending portions 73 and 74 and upturned portions 75 and 76 connected to the depending portions through connecting portions 77 and 78. The upturned portions 75 and 76 serve as jaws against which the face 12 of the putter is urged and are sufficiently spaced from the depending portions to freely receive the head of the putter. The cross bar 69 is attached to the depending portions of said hangers by riveting or otherwise at a locality opposite the back 14 of the club. The ends of the depending portions 73 and 74 are each given a quarter twist to provide two ears 81 and 82 by means of which the hangers may be hung from the carriage 36.

For the purpose of holding the club in position within the club holder, a set screw 79 is utilized which is threaded into the cross bar 69 and which engages the back of the club as shown in Fig. 4. It will be found that all putters have a straight face. For this reason the face of the club is urged against the upstanding portions 75 and 76 which properly positions the club with respect to the club holder. It hence is immaterial what shape the back of the club has as far as the positioning of the club with respect to the holder is concerned. Due to the wedge-shape of the club head of the particular club illustrated, the club is readily held in position within the holder and disengagement prevented, without the necessity of screwing the screw 79 down tight.

The two hangers 71 and 72 are pivoted to a bracket 83 by means of a pintle 84 which extends through the two ears 81 and 82 and through two other ears 85 and 86 formed on the ends of said bracket. The pintle 84 extends in a direction substantially parallel with the cross frame member 44 of carriage 36 and permits the club head to follow along the prescribed course without interference with the travel of the various wheels of the carriage 36 along the track A. The bracket 83 is pivoted to the cross frame member 44 through a bolt 87, which bolt extends through said bracket and the frame member 44 and which is threaded into said frame member and secured thereto through a lock nut 88 screwed upon the end of said bolt. By means of this construction the player may adjust the club to fit his particular stature and address without causing the wheels of the carriage to depart from the rails along which they travel, permitting the player to handle the club in an extremely simple and practical manner.

For supporting the ball while the same is being projected by the putting device, a plate-like spacer member 89 is employed which is disposed between the two rails 15 and 16 and which holds said rails at the centers thereof in proper spaced relation. This plate-like member is provided with a base portion 91 which lies in the plane of the feet 26, 27, 33 and 34 of the end members 17 and 18. This plate-like member is further constructed with two upturned flanges 92 and 75

93 secured to the inner surfaces of the rails 15 and 16 through rivets 94. At the proper location and upon the upper surface of the plate-like member 91 is provided a depression 95 for supporting a ball in proper position to be propelled by the putter. The position of the ball when mounted in said depression is shown in dotted lines at 96, in Fig. 5. The holder 37 is so constructed that the portions 77 and 78 of the hangers 71 and 72 clear the upper surface of the spacer member 89 when the carriage 36 is traveling along the rails 15 and 16. The depression 93 is so disposed that the ball contacts with the club head 11 at the center of percussion of the club head so that the ball is properly propelled over the playing surface when the club is manipulated in the desired manner.

The manner of using my invention is as follows: The device may be used upon any type of putting green, either indoors or outdoors. When the device is to be used on a level surface the player takes the device and places the same upon the putting green with the forward portion of the two rails 15 and 16 parallel to the line extending between the center of the cup and the depression 95. The device may be situated at any distance from the cup which the player desires, the principle involved being the same for all lengths of putts. The player then attaches his putter to the device by placing the head 11 thereof within the spaces formed between the portions 75 and 73 and the portions 76 and 74 of the hangers 71 and 72. The club is lowered until the sole 13 thereof engages the portions 77 and 78 of said hangers. Set screw 79 is next adjusted which brings the jaws 75 and 76 into engagement with the face 12 of the club and which holds the club properly attached to the support. The device is then ready for use. The player next takes his stance adjacent the rail 16 with his feet fairly close together and with his weight largely upon his left foot. He then adjusts himself until his head is directly over the ball placed upon the depression 95. The player then next takes a grip of the club and may employ any desired approved grip. The applicant has found that a firm grasp with all of the fingers of the right hand and with the thumb on the shaft and with the first three fingers of the left hand upon the shaft and the forefinger of the left hand overlapping the little finger of the right hand and with the left thumb also upon the shaft produces splendid results. With the right forearm resting against the body of the player and with the left elbow pointing in the direction of the cup, the arms are practically held immobile relative to the body of the player and the execution of the stroke greatly facilitated. Without movement of the body and arms and mainly through the action of the wrists, the player swings the club rearwardly. This causes the carriage 36 to travel rearwardly along the two rails 15 and 16 which causes the club head to follow along the desired path constituting the upswing of the stroke. The player then applies force to the club principally through the right hand carrying the club down to the ball and propelling the ball off the depression 95 and along the playing surface on which the putting device is stationed. The player continues the movement of the club along the forward portion of the track which constitutes the follow through of the swing. As the club follows through, the hands of the player leave the body slightly to permit of proper execution of this portion of the stroke. In the execu-

tion of the putting stroke it is desirable that the putter be manipulated at a certain speed which is relatively slow as compared to the maximum speed with which it is possible to swing the club. The weight of the carriage and the friction of the wheels upon the rails along which they travel help reduce the speed of the club head to the proper speed. The device is so designed that when the player swings the club at a comfortable rate of speed not requiring too much exertion, that the said club head and carriage travel at approximately the proper speed to procure the best results. While the carriage is traveling, the same takes a path such as is determined by the vertical arc 19 and the horizontal arc 21 of the edges 38 and 39 of the two rails 15 and 16. The curvature of these arcs is determined through experiment and is so designed as to cause the player to swing the club through the proper path and also in the proper direction to procure the desired results. By means of the curved back swing the player swings in a more natural and easy manner than would be the result were the back swing straight. When the stroke is properly executed, the carriage follows along the track. If, however, it is improperly executed, the wheels are forced off the track and the player becomes readily aware of his error. In the first use of the device it frequently becomes difficult to cause the ball to travel more than a few feet. This is due to an attempt to accelerate the club and carriage too rapidly. When the movement is slowed down and the club is caused to sweep through the ball rather than to strike it, the ball travels in the proper manner. After the user has experimented with the device, the feel of the club in traveling over the prescribed path is readily ascertained and he may attempt to execute the same movement without the aid of the device. The applicant has made numerous tests and has found that pupils using the putting device learn very quickly to execute the movements in the prescribed manner and thereafter are able to reproduce them without appreciable effort. When it becomes desirable to practice on sloping surfaces, the device is adjusted to allow for the roll and the same procedure followed.

My invention is highly advantageous in that an extremely simple and practical device is provided, whereby actual assistance may be given to pupils desiring to learn the correct method of putting. With my device the pupil's favorite putter may be used and applied to the putting device, making it unnecessary to use a putter forming a part thereof. The device not only teaches the correct manner of executing the stroke, but causes the club to be swung through the proper path so as to procure the proper direction of the travel of the ball. In addition the device assists in teaching the pupil the proper timing of the stroke, thereby preventing striking the ball instead of sweeping through the ball as recommended by the professionals. The device offers no appreciable inconvenience to the player and is readily adjustable to variations in stance and posture of the player due to this height and other personal characteristics. The device does not have to be anchored to the ground and can be readily adjusted to permit of directing balls on sloping surfaces. The device can be constructed at a nominal cost and by means of the particular construction employed, may be built relatively light both as to the track and carriage so as to offer no appreciable resistance to the manipulation of the putter. By means of

the improved wheel construction utilized and the form of track employed, minimum friction results and at the same time a minimum amount of noise is produced. Through the construction of the end members, as shown, an open formation is provided through which the ball may readily travel in being propelled toward the cup. By means of the construction used for supporting the wheels, the wheels may be adjusted to conform to the gauge of the rails without bending or otherwise distorting the rails or frame.

Changes in the specific form of my invention, as herein disclosed, may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A putting device comprising two spaced rails, end members for said rails, said end members consisting of bar material bent to provide connecting portions extending across said rails and holding the same in spaced relation, said end members being further bent to provide legs depending from said cross members, and being still further bent to provide feet issuing inwardly from the lower ends of said legs, said feet being adapted to support the device on a putting surface, the ends of the feet of one end member being spaced apart to provide a ball-way on said surface longitudinally of the device and substantially medially thereof.

2. In a putting device, a rail, a carriage movable along said rail, said carriage including wheels, each of said wheels being constructed with metal discs having fibre liners adjacent thereto, said wheels being further constructed with drums having rubber tires mounted thereon for engagement with the edges of the rails on which said wheels travel, said tires being disposed between said fibre liners.

3. In a putting device, a rail, a carriage movable along said rail, said carriage including wheels, each of said wheels being constructed with metal discs having fibre liners adjacent thereto, said wheels being further constructed with drums having rubber tires mounted thereon for engagement with the edges of the rails on which said wheels travel, said tires being disposed between said fibre liners, the circumferential edges of said metal discs being turned over upon said liners to hold the same attached to said discs.

4. In a putting device, a rail, a carriage movable along said rail, said carriage including wheels, each of said wheels being constructed with metal discs having fibre liners adjacent thereto, said wheels being further constructed with rubber cores adapted to ride upon the edges of said rail, and means for holding said discs and core in proper relation with respect to one another.

5. In a putting device, a pair of spaced rails, means for supporting said rails on a putting surface, a carriage having a front wheel and a rear wheel at either side thereof, the wheels at one side of the carriage being adapted to travel on one rail and the wheels at the other side of said carriage being adapted to travel on the other rail, flange means for keeping the wheels on the rails, pivoting means for attaching a putter to said carriage for playing a ball on said surface, said means permitting a pendulum like swing of the putter lengthwise of the rails, yet holding the putter head transversely of said carriage, said wheels being axially adjustable relative to the

carriage to take up end play and to accord with rail gauge and, further, to skew the carriage relative to the rails.

6. In a putting device comprising two spaced rails, a carriage movable along said rails, said carriage including a frame and wheels engaging both of said rails for supporting the frame, one of said wheels having a hub formed with a bore, a bushing threaded into said frame, a headed screw threaded into said bushing and extending through said bore of the hub to journal said wheel for rotation, said screw being adjustable to take up end play of said wheel, said bushing being adjustable to vary the gauge of the wheels, a lock nut screwed upon said bushing and engaging said frame, and a lock nut screwed upon said screw and engaging said bushing.

7. In a putting device comprising two spaced rails, a carriage movable along said rails, said carriage including a frame and wheels engaging both of said rails for supporting the frame, one of said wheels having a hub formed with a bore, a bushing threaded into said frame, a headed screw threaded into said bushing and extending through said bore of the hub to journal said wheel for rotation, said screw being adjustable to take up end play of said wheel, said bushing being adjustable to vary the gauge of the wheels, the hub of said wheel being disposed between the head of the screw and one end of said bushing, a lock nut screwed upon said bushing on the side thereof opposite said wheel and engaging said frame, and a lock nut screwed upon said screw and engaging the end of the bushing farthest from said wheel.

8. In a putting device, a rail, means for supporting the rail on a putting surface, a carriage movable along said rail and free to be lifted therefrom, said carriage including double flanged wheels in riding engagement with the rail, and means on said carriage underslung therefrom for securing the head of a putter thereto and supporting the putter with the head thereof in position to strike a ball on said surface upon movement of the carriage on the rail through the medium of the putter as in putting stroke, the flanges of said wheels serving as guides to direct the wheels back into seated relationship with the rail after the elevation of the carriage from said rail, as occasioned in a faulty stroke.

9. In a practice device for putting a ball along the ground, a rail, supporting legs at the ends of said rail adapted to rest upon the ground surface, a carriage movable along the rail, means for attaching a club to said carriage, a combined rail and ball supporting member between the ends of the rail, said member consisting of a leg portion attached to the rail and a foot portion turned at a right angle relative to said leg portion, said foot portion being adapted to rest upon the ground surface and being formed with an indentation therein to provide a tee for supporting a ball in position to be struck by the club head when the club is guided for movement by the carriage in travel along said rail.

10. In a practice device for putting a ball along the ground, two spaced rails, a carriage movable along the rails, means for attaching a club to said carriage, a combined spacer and rail and ball supporting member between the ends of the rails, said member being of U-shaped formation and comprising leg portions attached to the rails and a foot portion common to said leg portions adapted to rest upon the ground surface, said foot portion serving to tie the rails together through

said leg portions and also to support a ball in position to be struck by the club head when the club is guided for movement by the carriage in travel along said rails.

and support the rails above said surface, a carriage movable along the rails, means for attaching a club to said carriage so that the head of the club will strike a ball resting on the ground surface between said rails, when the carriage is moved through the medium of the club, as in a putting stroke, the leg portions of the end member at the discharge end of the device providing a ball-way between them for the stroked ball.

5 11. In a practice device for putting a ball along the ground, two spaced rails, end members for said rails, each member comprising a tie portion extending from rail to rail and leg portions, one for each rail, each leg portion extending downwardly from its respective rail, said leg portions
10 being adapted to rest upon the ground surface

WILLIAM EISENBERG.

10