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F. ZEGA

2,653,025

MECHANICAL GOLF INSTRUCTION AID

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2 Sheets-Sheet 1

Fig. 3

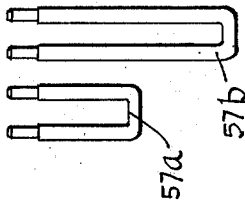


Fig. 2

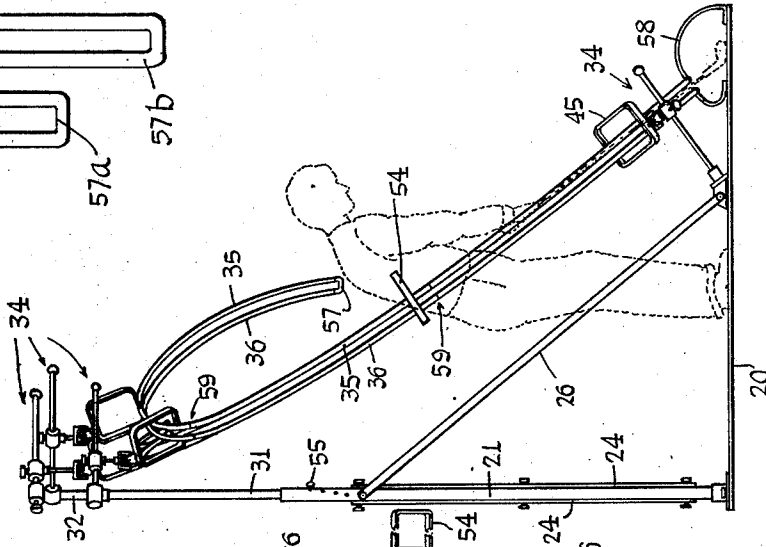
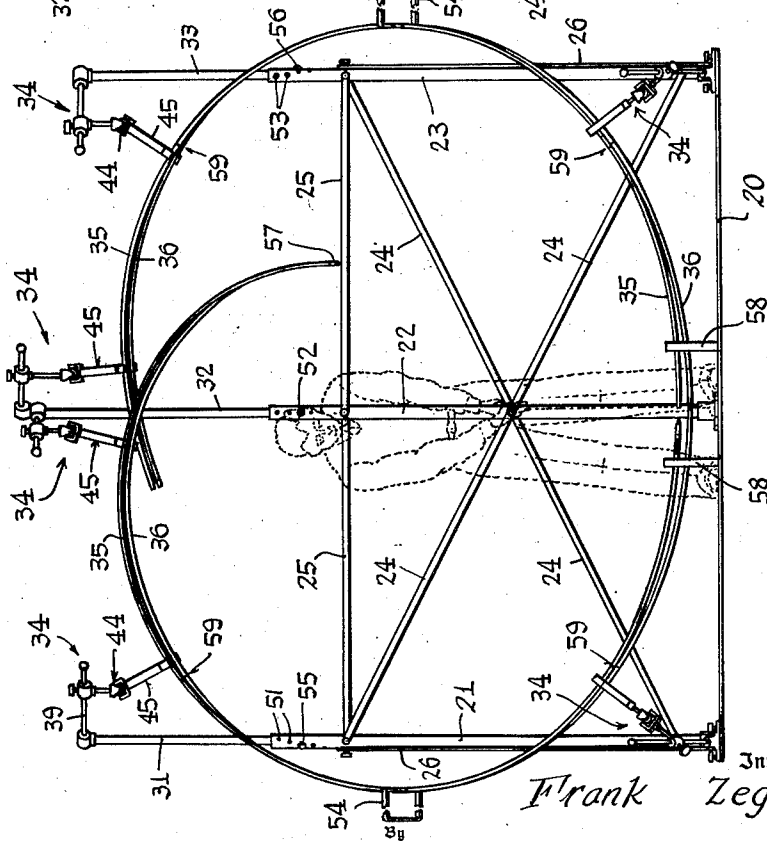


Fig. 1



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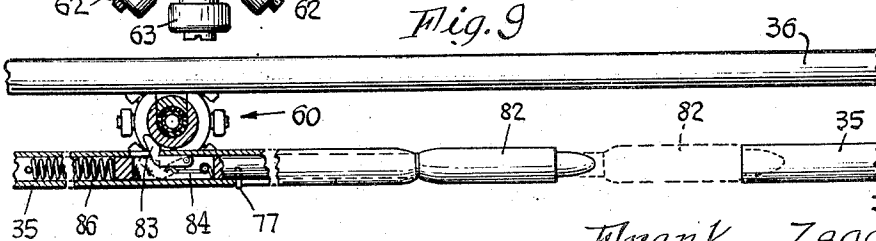
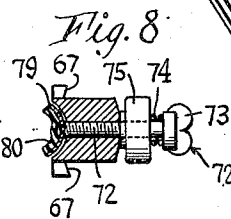
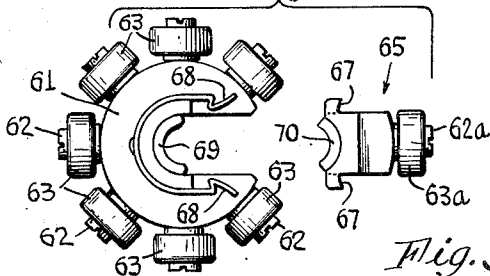
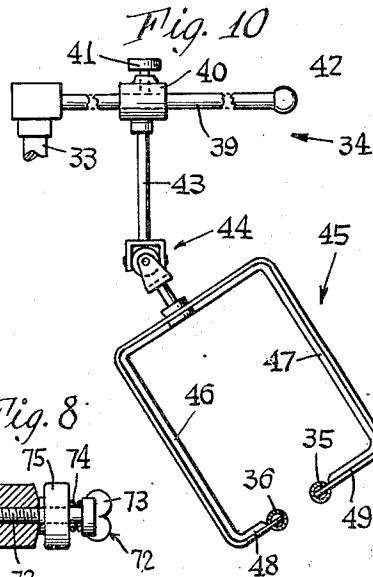
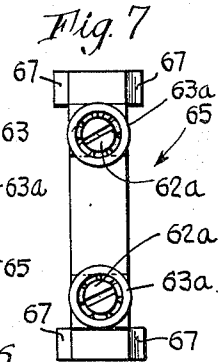
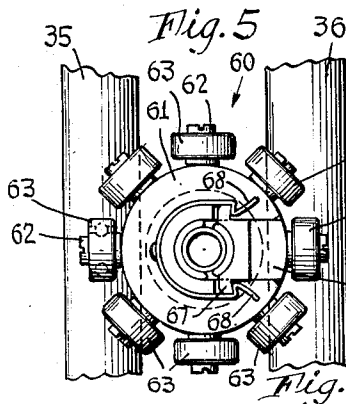
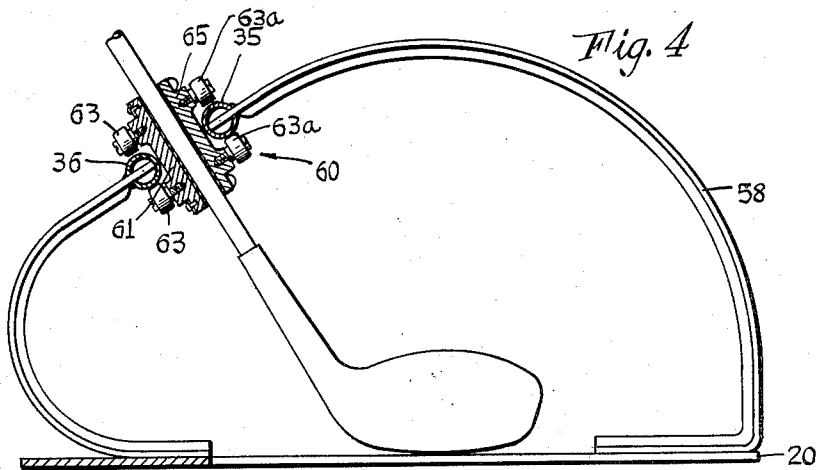
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MECHANICAL GOLF INSTRUCTION AID

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2 Sheets-Sheet 2



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MECHANICAL GOLF INSTRUCTION AID

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Application April 23, 1951, Serial No. 222,453

16 Claims. (Cl. 273—35)

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The present invention relates to a mechanical golf-swing instructor and more particularly to a device whereby an individual may learn the proper manner to swing a golf club.

Mechanical golf-swing instructors and similar devices have been used in the past but none of them has ever proved to be sufficiently satisfactory, with the result that none of these prior art devices has ever attained commercial success to any marked degree. These devices have normally used rails or tracks to guide the club head or the club shaft through the various angular positions taken during a complete swing but none of them has ever been truly successful in simulating a golf swing as it should be properly executed.

Some devices have had a training golf club shaft immovably secured to a trolley or carriage riding on tracks or rails to guide and control the swing of the club by the individual but such devices are undesirable as the individual is not able to use his own clubs in the device. As a result, even if the individual could manage to attain a creditable swing, it would be attained with a golf club having a different weight, length and "feel" than the clubs he was accustomed to use. Naturally therefore, when the pupil returned to using his own clubs again, he would be at a loss and would have to "unlearn" all his so-called lessons and start from scratch again with his own clubs.

Additionally, since the golf club was rigidly secured to the trolley or carriage, it could not turn about its own axis and thus the problem was not solved as to the slight turning of the club which is necessary during the back swing when the club face turns from its "open" position at the bottom of the swing to a "half-closed" position at the top of the swing. Naturally, such devices did not allow for this turning, nor was it realized that the amount of turning differed for everyone and that some golfers turned the club face more or less than to a "half-closed" position. As a result, this type of device taught a golfer to have a rather stiff, pendulum-like swing which is a wholly undesirable type of swing and is lacking in the power necessary for a long drive.

Other devices have permitted the use of the pupil's own clubs in such instruction equipment but these devices have always failed to control the swing sufficiently so that, although the pupil had a club which he was accustomed to use as far as weight, length and "feel" were concerned, he never was properly guided and his golf club head was never correctly controlled. Such devices, although they may have permitted the turning of

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the club face from the "open" position to the "half-closed" position, failed to control the "pull-in" or shortening of the arc during the down-swing with the result that the pupil was never cured of a tendency to "hack" or "chop."

Another common fault of these prior art devices is that, although they were intended to be adjustable, the correct principles of such adjustability were not thoroughly understood or correctly applied with the result that these so-called "adjustable" devices could not be modified to suit different individuals.

Other devices which attempted to permit the turning of the club face, and prevent the "pull-in" of the club head, and, at the same time, permit a pupil to use his own clubs have been unsuccessful in one or more of these aspects and no sufficiently satisfactory golf-swing instructor for universal use has been practically or commercially produced.

It is a purpose of the present invention to provide a mechanical golf-swing instructor which will guide and control the swing of an individual in a true simulation of a golf swing as it should be properly executed.

Another purpose of the present invention is to provide a mechanical golf-swing instructor wherein an individual may use his own golf clubs.

Still another purpose of the present invention is to provide a mechanical golf-swing instructor which permits sufficient freedom to the golf club to turn from the bottom "open" position to the top "half-closed" position but, at the same time, prevents "pulling-in" of the golf club head.

A further purpose of the present invention is to provide a mechanical golf-swing instructor which correctly applies the principles of adjustability so as to be capable of universal applicability to all golfers.

A feature of the present invention is the provision of means to secure the golf club of the pupil in the golf-swing instructor with a minimum of effort and time.

An advantage of the present invention is the provision of adjustable means whereby golf clubs having different diameters of shafts may be used in conjunction with the golf-swing instructor.

Other purposes, features and advantages of the present invention will become apparent from the following description of a preferred embodiment thereof, reference being had to the accompanying drawings, in which:

Figure 1 is a view in front elevation showing the golf-swing instructor of the present invention.

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Fig. 2 is a view in side elevation of the golf-swing instructor.

Fig. 3 is a detail drawing of the adjustable end pieces of the dual guide rails.

Fig. 4 is a fragmentary view showing the golf club head at rest at the bottom position of the golf club swing.

Fig. 5 is a fragmentary drawing of the roller assembly of the present invention in position on the dual guide rails.

Fig. 6 is an exploded drawing of the roller assembly of the present invention.

Fig. 7 is a top view of the roller insert block for the roller assembly.

Fig. 8 is a cross-sectional view of a modification of the roller insert block of the present invention having adjustable features therein.

Fig. 9 is a fragmentary plan drawing of a portion of the dual guide rails in the vicinity of the bottom position of the swing.

Fig. 10 is a detail drawing of a portion of the suspending bracket for the dual rails.

As shown in the drawings, wherein a preferred embodiment of the present invention is illustrated, a base or platform 20 is provided upon which the pupil may stand. This platform 20 may be constructed of plywood, planks or any similar material capable of providing a firm footing for the pupil. A plurality of vertically upstanding stanchions or posts 21, 22 and 23 are securely mounted on the platform 20 adjacent the rear edge thereof and are strongly braced by four diagonal cross struts 24 and by two horizontal cross struts 25 to form a rigid framework. An additional pair of supporting struts 26, see Fig. 2, are also provided and are secured to an intermediate point on the end posts 21 and 23 and extend forwardly and downwardly to intermediate points adjacent the side edges of the platform 20 to be secured thereat. This construction is firm and unyielding and provides sufficient room for the pupil therein as well as providing a strong and steady structure for mounting the various components of the golf-swing instructor. It is to be appreciated that other structures could be provided for this purpose and that the illustrated framework is merely a preferred embodiment.

The posts 21, 22 and 23 are hollow and are adapted to receive extension rods 31, 32 and 33 within their bodies, which extension rods are capable of a sliding fit therewithin. This sliding fit should not be too snug as to create friction or any difficulty in sliding the extension rods to various positions within the posts but it should not be too loose as to induce sloppiness or undue freedom of the extension rods.

Suspending bracket assemblies 34 are located at the uppermost portions of these extension rods and also at the lowermost portions of the supporting struts 25, 26 and provide means to hold a pair of dual guide tracks or rails 35, 36 in position. The location and general relationship of these bracket assemblies to each other and to the guide rails 35 and 36 is best shown in Fig. 1 and additional reference is made to Fig. 10 showing in greater detail the specific construction of a bracket assembly.

A slide rod 39 is mounted on the uppermost portion of the extension rod 33, which has been selected as an illustrative example, inasmuch as all the bracket assemblies are substantially of the same construction. An annular sliding collar 40 is mounted for sliding movement on the slide rod 39 and is adapted to be secured in any desired position therealong by a thumb screw 41 threaded

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through the collar 40 to abut the slide rod 39. A retaining knob 42 is secured to the end of the slide rod 39 to prevent the accidental or inadvertent sliding of the collar completely off the slide rod 39. A rod 43 is secured to the collar 40 and has mounted on its end a universal joint 44, or similar linkage, to which is secured a spacing or guide rail bracket 45 which comprises spaced side arms 46, 47 and inwardly turned mounting arms 48, 49 to which are rigidly secured the guide rails 35 and 36. The opening in the guide rail bracket should be large to permit free passage to a club head.

Consideration of Figs. 1 and 2 will reveal how these mounting brackets 34 maintain the guide rails 35 and 36 in proper position to guide and control the golf swing of the pupil.

Adjustability of the central extension rod 32 is provided for by a series of aligned openings formed in the hollow post 22 which openings cooperate with and may be centered on an opening (not shown) in the extension rod. A locking stud or pin 52 is provided and is inserted through the proper opening in the hollow post 22 and into the aligned opening in the extension rod 32 whereby the extension rod may be locked in any desired position and the height of the brackets thereon may be correspondingly adjusted and locked, as is necessary.

Adjustability of the end extension rods 31 and 33 is accomplished by a somewhat similar arrangement wherein a series of openings 51 and 53 are provided in the hollow posts 31 and 33, respectively, which openings cooperate with and may be centered on an opening (not shown) in each of the extension rods to be secured in adjusted position by lock studs or pins 55 and 56, as described above. It is to be noted, however, that the series of openings in the posts 21 and 23 are not in a straight line parallel to the axis of the post in which they are formed but that they proceed helically around the posts. In this way, whenever the extension rod 31 is raised or lowered and the opening therein aligned with the desired opening in the post 21, the mounting bracket assembly is automatically turned inwardly or outwardly, as the case may be.

During this adjustment, the portion of the guide rails 35, 36 located adjacent the bottom portion of the swing is unaffected by the movement of the upper portions of the guide rails. This is as it should be, inasmuch as the point of impact with a teed-up golf ball does not vary no matter what size or height of golfer is swinging.

It will also be apparent from this adjustment feature that the taller the pupil is, the higher the extension rods will be raised within the posts and the more the end rods 39 will be turned inwardly as a result of the helical arrangement. As a result, a more upright swing is attained thereby which is the proper and accepted swing for tall pupils. Conversely, the shorter the pupil is, the lower the end extension rods will be positioned within the posts and the more they will be turned outwardly. As a result, a flatter swing is attained which is the proper and accepted swing for pupils of less than average height.

When the configuration of the guide rails is changed, as, for example, for a tall pupil, the guide rails 35, 36 will naturally assume a more upright position and form a higher arch. A removable end rail section 57, as shown in Fig. 3, having turned down ends, is frictionally held within the ends of the hollow guide rails and may be replaced by other and longer end sec-

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tions 57a and 57b, as desired or necessary. The ends of these sections are turned down sufficiently so that they will frictionally fit within the hollow guide rails and it will be apparent that they will add to the length of the guide rails at the end portion corresponding to the top of the back-swing.

In this fashion, it will always be possible to adjustably control the extreme end position of the back-swing at which point the hands should be even with the top of the head and the shaft of the club should be in substantially a horizontal position.

It is also to be noted that the other end section of the guide rails which corresponds to the follow-through portion of the swing is open at the point of maximum follow-through. Thus, the golf club is guided and controlled through substantially all of the follow-through portion of the swing and then swings free and clear of the guide rails so that it may easily be replaced at the bottom position of the swing, that is, the position whereat the ball is addressed and the point of impact of club head and ball.

A pair of fixed spacing brackets 58, 58 are positioned at the very bottom of the guide rails where the ball is addressed and maintain the guide rails in a firm unyielding manner in order that the golf club be closely controlled and guided at that particular portion of the swing. Inasmuch as this is in the area of impact between the club head and the ball, it should be apparent why close control is desired thereat. As stated previously, this portion of the guide rails remains substantially unaffected, no matter what adjustments are made to other portions of the guide rails.

A pair of fixed, non-adjustable, spacing brackets 54, 54 are provided at the extreme forward and rearward points of the guide rails 35, 36 and they are used to keep the rails a predetermined constant distance apart thereat. If desired, more spacing brackets may be provided but it has been found that these two brackets 54, 54 are sufficient. As a matter of fact, if the guide rails 35, 36 are of sufficient strength and rigidity, the fixed brackets 54, 54 may be found to be unnecessary.

The guide rails 35, 36 are preferably formed of hollow tubing and made of brass or copper or similar bendable material capable of yielding in conformity with the various changes in the rail configuration induced by the adjusting of the device by the mounting brackets 34. As will be realized from a careful consideration of Figs. 1 and 2, the relationship and positioning of the rails 35 and 36 with respect to each other must always be such that the line joining their axes extends substantially at right angles to the axis of the shaft of the golf club. Such a relationship is set forth very clearly in Fig. 4 wherein the bottom of the swing is depicted and it is to be noted that the shaft of the club is substantially at right angles to the line joining the centers of the circular guide rails.

In order to obtain such a relationship, the respective heights of the rails must be so adjusted so that one may be higher than the other in some portions of the curvilinear path and lower in other portions. For example, as shown in Fig. 4, the outer rail 35 is higher than the inner rail 36 so that the club head will assume the proper position relatively to the ground.

The guide rails are also formed in a plurality of separate sections, as indicated by the breaking marks 59 in Fig. 1, whereby the entire struc-

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ture may be dismantled for transportation, storage or other purposes.

A roller assembly 60 is adapted to be secured to the shaft of a club immediately above the club head and provides for a smooth rolling contact with the surfaces of the guide rails 35, 36. As shown in Figs. 4 through 6, the roller assembly 60 includes a somewhat U-shaped body 61, the outer periphery of which comprises substantially 315° of the circumference of a circle. Headed mounting pins 62 are threaded into the 315° periphery of the U-shaped body 61 at equal 45° intervals thereon and extend in two parallel, spaced, spoke-like, radially extending rows and are adapted to have ball bearings 63 mounted for rotation thereon.

In the particular preferred embodiment of the invention, seven threaded mounting pins 62 and seven ball bearings 63 are mounted in each spoke-like row and each is positioned within a 45° arc of the periphery of the U-shaped body 61. It is to be mentioned in passing that more or less ball bearings may be used depending upon the size and shape of the tracks or rails, the size of the ball bearings and the circumference of the roller assembly, and so on. Such an arrangement provides for evenly spaced ball bearing surfaces and allows for the insertion in the open end of the U-shaped body 61 of an eighth ball bearing 63a mounted on threaded mounting pins 62a for each of the spoke-like rows. The ball bearings 63a and the pins 62a are formed as part of a roller insert block 65 which is adapted to fit snugly within the open end of the U-shaped body 61 and thus to complete the full 360° circumferential periphery thereof, as shown in Fig. 5. A pair of double ears 67 are so secured to the roller insert block 65 as to engage and slide under a pair of double spring latches 68 and be snapped into position and securely held thereby. This is best shown in Figs. 5 and 6.

The length of the insert block is such that the ball bearings 63a thereon will align themselves with the ball bearings 63 of the U-shaped body 60 so as to provide for a smooth rolling contact between the roller assembly and the guide rails. The ears 67, 67 are so arranged that they snap into position automatically with the space between their inner edges capable of receiving therein the U-shaped body so that any possible vibration or axial slipping is avoided.

An open-ended trough-shaped rubber cushion insert 69 is secured at the base of the open end of the U-shaped body and a second open-ended trough-shaped rubber cushion pad 70 is adhered to the face of the insert block 65. It will be apparent from Figs. 5 and 6 that when a golf club shaft is inserted in the open end of the U-shaped body 61 and the block insert 65 is snapped into place, the rubber insert 69 and the pad 70 will squeeze down on the shaft and hold it in place and will effectively prevent any "pulling-in" or slipping of the club shaft.

It has been found that the majority of clubs having wood faces, the so-called "woods," normally have shaft diameters immediately above the club heads of approximately $\frac{3}{8}$ "; whereas the majority of clubs having steel faces, the so-called "irons," normally have shaft diameters immediately above the club heads of approximately $\frac{1}{2}$ ". In such a case, it has been found advisable, although not essential, that two different roller assemblies be provided; one having a greater thickness of rubber for use with woods and the other having a lesser thickness of rubber

for use with irons. However, if desired, the insert 69 and pad 70 could be made of a thick resilient material capable of gripping both sizes tightly enough to prevent any slippage.

In Fig. 8 is shown a modification of the roller insert block 65 wherein an adjustable screw 72 is used in lieu of the mounting screw 62 and is adapted to be threadedly advanced or withdrawn within the body of the insert block 65 to advance or withdraw the rubber pad 80 in the direction of the rubber insert 69. A metallic backing plate 79 is adhered to the rear surface of the rubber pad 80 so that the pressure may be applied more uniformly to prevent any possible injury to the pupil's club shaft. The adjustable screw 72 possesses a wing nut head 73 to facilitate the turning of the screw and the tightening of the roller assembly on the shaft of the club. A compression spring 74 is mounted between the ball bearing 75 thereon and the undersurface of the wing nut head of the screw 72 whereby the ball bearing is maintained in place at all times under constant holding pressure. This type of insert block is of universal use and may be used with any club and merely requires tightening of the screw 72 after the insert block has been snapped into position in the usual way.

The guide rails 35, 36 are provided with an open space or gap immediately adjacent the "ball-addressing" position so that the golf club shaft can be easily inserted therinto and the roller assembly 60 positioned on the guide rails. This is a feature which obviates the necessity of inserting the golf club shaft and the roller assembly secured thereto at one end of the tracks. By enabling the golfer to place his club in the proper position immediately, the manner of taking one's stance and grip on the handle of the club and addressing the ball are very similar to that under actual playing conditions.

As best shown in Fig. 9, a telescoping slide portion 82 of the guide rail 35 is adapted to be resiliently slid backwardly within the rail itself until a trigger latch 83 is spring urged upwardly by a spring 84 to pass through a locking opening in the guide rail 35. When the latch reaches this opening, it immediately passes upwardly through the same and, due to the undercut front face thereof, is locked securely in position. A compression spring 86 is mounted within the hollow rail 35 in such a position as to be compressed by the leading end of the movable sliding portion 82 of the guide rail 35 when in its rearward "cocked" position, and tends to return the portion 82 to the dotted line position. A guide pin 77 is provided and is secured to the movable portion 82 and extends through and rides in a slot formed in the underside of the rail 35. This guide pin 77 insures that the movable portion 82 always moves in a straight line without any rotation. If this were not provided for, then it would be quite possible for the movable portion 82 to rotate within the rail 35 whereby the trigger latch 83 would no longer be aligned with its slot and might not project therethrough to lock and hold the movable portion 83 in its rearward position.

When the club head and roller assembly 60 have passed rearwardly beyond the trigger latch 83, it will have depressed and tripped the same and have allowed the compression spring 86 to push the movable portion 82 forwardly to close the gap in the guide rail 35. As a result, when the club head completes the back swing and then swings forwardly in a power drive to hit the golf

ball, it will have two guide rails to guide it at the bottom position of the swing, inasmuch as the portion 82 will then be in the dotted line position of Fig. 9.

From the foregoing, it will be apparent that a pupil will be permitted to use his own club in the mechanical golf-swing instructor by merely securing the U-shaped body 61 around the shaft of his club at the proper place thereon and positioning the insert block in the opening in the U-shaped body to complete the ball bearing periphery. The club is then positioned as shown in Fig. 9 with one spoke-like row of ball bearings below the guide rails and the other spoke-like row of ball bearings above the guide rails. The golf club is then moved into the back-swing position and the trigger 83 is automatically tripped and released and the device is ready for use. After the first ball has been hit and the club has become disengaged from the rails by passing through the open ends thereof, the movable slide portion 82 is pushed back and cocked and a second ball is teed up. The club head is reinserted as desired between the rails and the device is ready for the next drive.

Inasmuch as the ball bearings have considerable freedom of movement in the guide rails and are capable of freely rotating with the golf club about the axis of the shaft of the golf club, the club may easily be placed in any desired position at the bottom of the guide rails as regards the angle taken by its face. In other words, if desired, it may be "open" or partially closed. During the back swing, the club will be permitted to turn about its own axis to any desired position, such as to a "half-closed" face which, of course, is wholly desirable and necessary. During the down swing, it will be impossible to pull-in or shorten the radius of curvature or arc of the club head as it will be carefully guided and controlled at that time. The roller assembly, which will be gripping the club shaft, will prevent any possible change in the length of arc of the club head. Thus, not only is the golf swing carefully designed to simulate the path as taken under actual playing conditions but the golf club is smoothly guided to follow that path to simulate the desired swing.

While I have shown and described what I believe to be a preferred embodiment of my invention in the matter of simplicity and durability of construction and ease of operation, it will be obvious that the details of such construction may be more or less modified within the scope and spirit of the claims without departure from the principles of construction or material sacrifice of the advantages of the preferred design.

I claim:

1. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; and a roller assembly to be secured to a golf club, said assembly including mounting means for removably securing said assembly on a golf club shaft; gripping means for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft; and means mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis.

2. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along

a predetermined curvilinear path conforming to a prescribed golf club swing; and a guide assembly to be rigidly secured to a golf club, said assembly including a U-shaped mounting means for receiving a golf club shaft therein; an insert block to removably secure the golf club shaft in said U-shaped mounting means; gripping means for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft; and means mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis, with said axis bearing a constant relationship to said rails regardless of the rotated position of the club.

3. The invention as defined in claim 2 wherein said insert block is provided with ears and said U-shaped mounting means is provided with spring latches to removably secure said insert block and mounting means together.

4. The invention as defined in claim 3 wherein said ears on the insert block are spaced apart a distance equal to the width of the U-shaped mounting means whereby they engage the ends of said U-shaped mounting means to properly align the insert block therewith.

5. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; and a roller assembly to be secured to a golf club, said assembly including mounting means for removably securing said assembly on a golf club shaft; gripping means for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft; and a plurality of anti-friction rollers on the peripheral surface of said mounting means and rotatable about axes substantially perpendicular to and radiating from the club shaft axis for mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis.

6. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; and a roller assembly to be secured to a golf club, said assembly including a U-shaped mounting means for receiving a golf club shaft therein; an insert block to removably secure the golf club shaft in said U-shaped mounting means; gripping means for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft; and a plurality of anti-friction rollers on the peripheral surface of said U-shaped means and said insert block and rotatable about axes substantially perpendicular to and radiating from the club shaft axis for mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis.

7. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; and a roller assembly to be secured to a golf club, said assembly including a U-shaped mounting means for receiving a golf club shaft therein; an insert block to removably secure the golf club shaft in said U-shaped mounting means; resilient gripping means on the opposed internal surfaces of said

U-shaped member and said insert block for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft; and a plurality of anti-friction rollers on the peripheral surface of said U-shaped means and said insert block and rotatable about axes substantially perpendicular to and radiating from the club shaft axis for mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis.

8. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; and a roller assembly to be secured to a golf club, said assembly including mounting means for removably securing said assembly on a golf club shaft; gripping means for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft, said gripping means being resiliently yieldable to conform to shafts of different diameter; and means mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis, and for preventing relative movement of said assembly and said rails in the direction of the club shaft axis.

9. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; means to adjust the height and curvature of said rails; and a roller assembly to be secured to a golf club, said assembly including mounting means for removably securing said assembly on a golf club shaft; gripping means for holding the golf club shaft in said assembly to prevent relative movement therebetween lengthwise of the club shaft; and means mounting said assembly on said rails to provide for guided rolling movement of the assembly therealong as well as rotational movement of the golf club shaft about its own axis, and for preventing relative movement of said assembly and said rails in the direction of the club shaft axis.

10. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf swing; a roller assembly secured to a golf club shaft and mounted on said rails for guided movement therealong; and means providing for the mounting of the roller assembly at a predetermined location on said rails, said means including a telescoping member forming a portion of said rails and mounted for sliding movement within said rails; locking means to hold said member in telescoped position within said rails to provide an opening in the rails for the insertion and mounting of the assembly thereat, said locking means being automatically releasable upon commencement of a back swing; and means returning said telescoping member to a position to close the opening to provide continuous guiding rails for the golf club swing.

11. A mechanical golf instruction aid comprising spaced parallel rails to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf swing; a roller assembly secured to a golf club shaft and mounted on said rails for guided movement therealong; and means providing for the mounting of the roller assembly at a predetermined location on said

rails, said means including a telescoping member forming a portion of said rails and mounted for sliding movement within said rails; spring-pressed locking means to hold said member in telescoped position within said rails to provide an opening in the rails for the insertion and mounting of the assembly thereat, said locking means being automatically releasable upon contact with said assembly upon commencement of a back swing; and resilient means returning said telescoping member to a position to close the opening to provide continuous guiding rails for the golf club swing.

12. A mechanical golf instruction aid comprising a platform; stanchions mounted on said platform; guide rails secured to said stanchions, said rails being formed to guide a golf club along a predetermined curvilinear path conforming to a prescribed golf club swing; a roller assembly secured to a golf club shaft and mounted on said rails for guided movement therealong; adjustable means securing said rails to said stanchions including means to simultaneously change the height and arch of said rails in a fixed proportion; and means to change the length of said rails.

13. The invention as defined in claim 12 wherein the means to adjustably secure said rails to said stanchions comprises an extension rod in slidable telescoping engagement with said stanchions; a member rigidly connected to and extending laterally from said extension rod and supporting a portion of the track and helically arranged locking means between said stanchions and said rods whereby the height and arch of the rails is changed in a fixed proportion.

14. A roller assembly for use in a mechanical golf instruction aid having guide rails comprising a U-shaped member having an arcuate peripheral surface; mounting studs uniformly spaced in a pair of spoke-like rows on the arcuate peripheral surface of said U-shaped member; antifriction rollers mounted on said studs; an insert block capable of being placed at the open side of the U of said member to complete therewith a closed periphery; studs mounted on said insert block; antifriction rollers mounted on said

studs; and means to removably secure together said U-shaped member and said insert block with said rollers of said U-shaped member and said insert block in alignment and forming a pair of circumferentially disposed rows.

15. A roller assembly for use in a mechanical golf instruction aid having rails comprising a body including a U-shaped member; a resilient insert at the inner bottom of the U of said member to receive the shaft of a golf club, said body also including an insert block capable of being placed at the open side of the U of said member to complete therewith a closed periphery; a resilient pad on the inner face of said insert block in opposed relationship to said resilient insert and contacting the golf club received in the U of said member; means to removably clamp said insert block against said member to secure the golf club immovably therein; and antifriction rollers arranged on the periphery of said body to provide rolling contact with the rails of the instructor.

16. A mechanical golf instruction aid comprising a pair of spaced rails to receive a golf club shaft therebetween for guiding the same along a predetermined curvilinear path conforming to a prescribed golf swing and defining a surface substantially perpendicular to the club axis at any location in the swing; and a roller assembly rigidly secured to said shaft and having rollers radiating from the shaft axis and guidingly engaging said rails; and means constraining said roller assembly against movement transversely of the rails for determining the axial position of said club shaft with respect to the rails without preventing rotation of the club shaft about its axis.

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