

May 29, 1934.

F. B. MacSTOCKER
PRECISION GOLF INSTRUCTOR

1,960,787

Filed Jan. 16, 1932

4 Sheets-Sheet 1

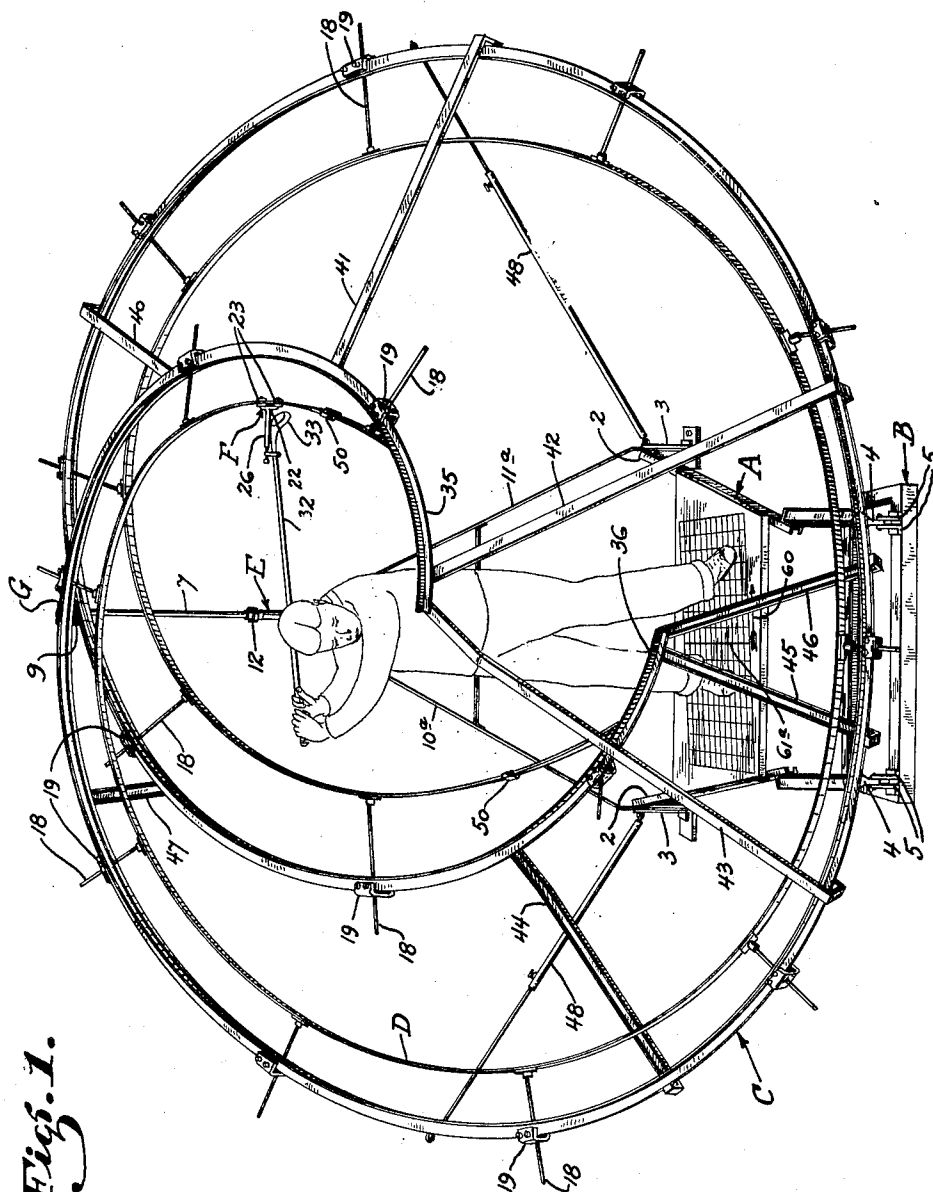


Fig. 1.

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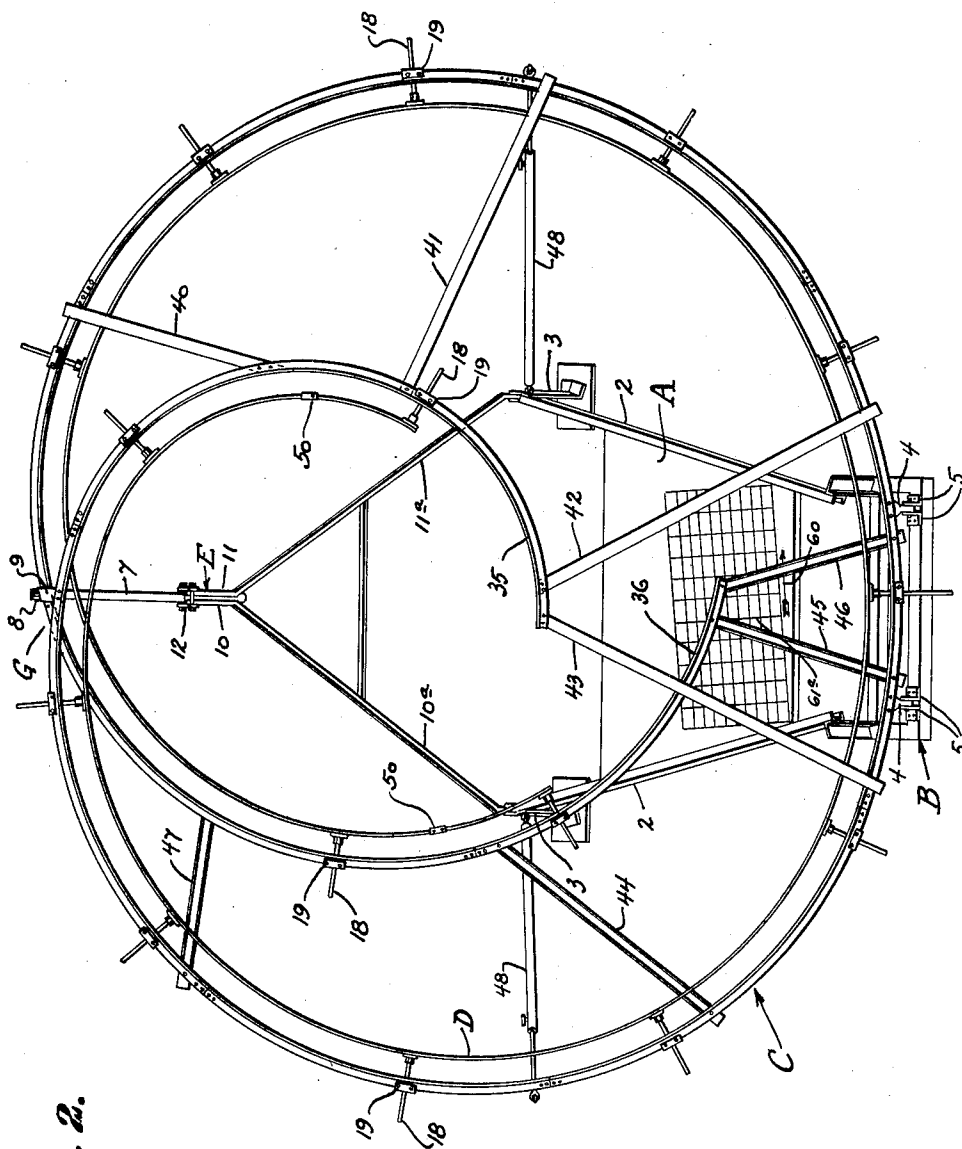


Fig. 2.

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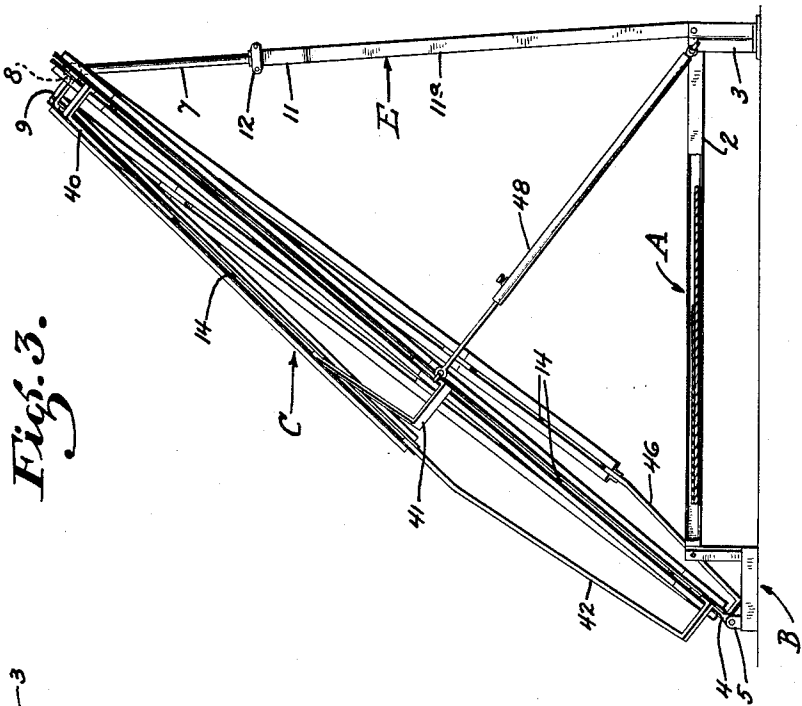


Fig. 3.

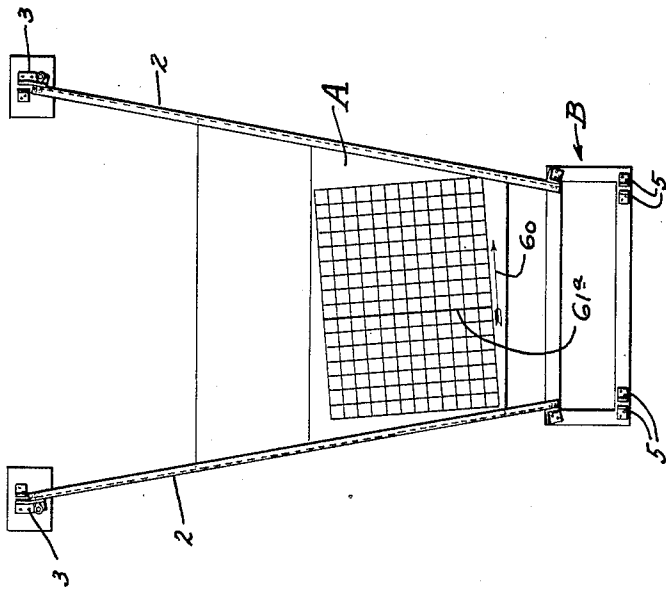


Fig. 4.

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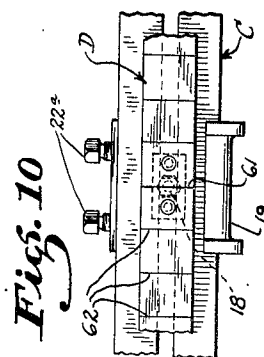
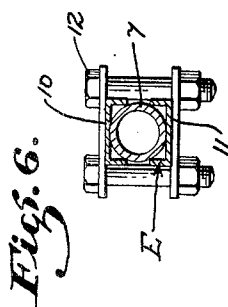
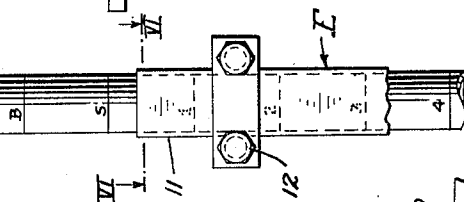
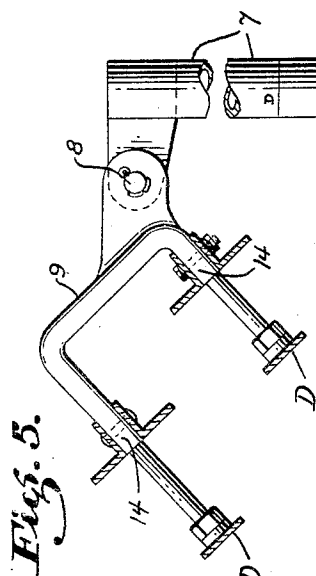
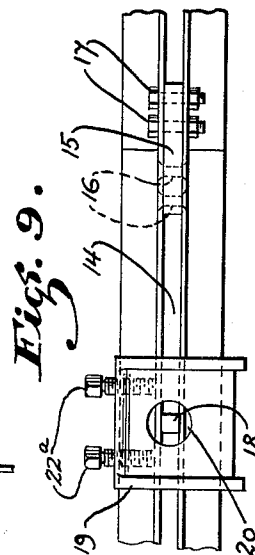
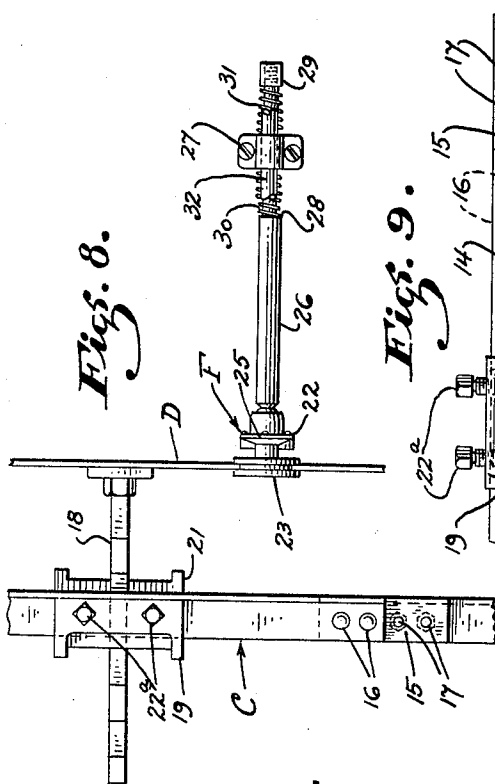
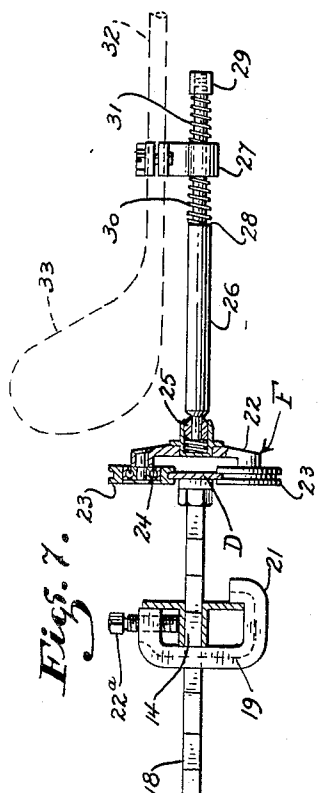
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UNITED STATES PATENT OFFICE

1,960,787

PRECISION GOLF INSTRUCTOR

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Application January 16, 1932, Serial No. 586,991

7 Claims. (Cl. 273—35)

This invention relates to the art of teaching golf, that is, the proper swing or movement of the club when making a stroke, and particularly to an apparatus whereby the club is mechanically guided in such a manner that the proper swing or movement will be made, thus permitting a novice to become quickly accustomed to the proper swing or stroke and the more seasoned player to perfect a stroke.

10 The object of the present invention is to generally improve the construction and operation of apparatus of the character described; to provide an apparatus whereby the proper stance, body movement, arm movement, and swing when making a stroke may be quickly and readily taught; 15 to provide an apparatus which is adjustable to different persons, that is, to persons of different height, length of arms, etc.; to provide an apparatus which is adjustable to obtain varying 20 degrees of flatness of swing pursuant to the use of different golf clubs and to the various strokes producing a straight, hooked, or sliced ball; to provide an apparatus which has such a range of adjustment that it may be adjusted to conform 25 to any orthodox or approved stroke of golf; to provide an apparatus in which the adjustable parts carry graduated scales so that when properly adjusted for a given person a record may be made for future use; and further, to provide an apparatus which permits the pupil to 30 perform the entire golf swing from back stroke to follow through and which is also provided with adjustable stops to properly shorten the stroke on certain iron shots and pitch shots.

35 The apparatus is shown by way of illustration in the accompanying drawings, in which—

Fig. 1 is a perspective view of the apparatus.

Fig. 2 is a front view of the apparatus.

40 Fig. 3 is a side elevation of the same.

Fig. 4 is a plan view of the base.

Fig. 5 is a side elevation of the adjustable support for the main frame at the upper pivot and the location of the frame and the guide tracks.

45 Fig. 6 is a plan section taken on line VI—VI of Fig. 5, showing the method of clamping the pipe 7.

Fig. 7 is a side elevation of the golf club carriage, partly in section and the track adjusting 50 and clamping means.

Fig. 8 is a plan view of Fig. 7, showing the golf club carriage, the track clamping and adjusting means, and a portion of the main frame with one spacer bar.

55 Fig. 9 is a side elevation of a portion of the

main frame, showing the track clamping and adjusting means, and the method of securing each section of the main frame by the spacer bars.

Fig. 10 is a detail view of that portion of the guide track and frame which is positioned in 60 front of the base, said view showing the graduations marked on the inner surface of the guide track which align with the longitudinal graduations on the base.

Referring to the drawings in detail and particularly Figs. 1 to 3, A indicates a base member supported by a pair of arms 2—2, which in turn, are supported at their rear ends by vertical bracket members 3—3 and at their forward ends by a secondary base indicated at B. The base A 70 forms a support for the pupil, who is to be instructed or taught, and the secondary base B forms a support for a frame generally indicated at C. This frame is pivotally attached to the base member B as it is provided with a pair of 75 bearing lugs 4 which are supported by fork-shaped bearing brackets 5, the pivotal support permitting tilting of the main frame C, as will hereinafter be described.

The main frame is constructed of curved sections of angle iron bars. These sections are assembled and secured with relation to each other, as will hereinafter be described, and when assembled, are shaped to conform approximately to the complete or full swing of a golf club when 85 properly executed. The function of the main frame is that of supporting a guide track generally indicated at D. This is made of a flat comparatively narrow band of spring steel and is adjustable with relation to the main frame. The 90 track D guides the head of the golf club when making the swing and the shape or curvature of the track must accordingly conform to the proper swing or path which the head of the club should follow when making a stroke. 95

The pupil, who is to be instructed or taught, is placed on the stand indicated at A. The instructor shows the pupil how to make the proper stance, how to make the proper body and arm movements when making the stroke, and the pupil is further assisted when making the stroke inasmuch as the golf club which he employs is connected to the guide track D and, as such, can only follow one path, to-wit, the path described by the track and, if this is properly adjusted to the person who is being taught, that person will quickly and readily learn as the stroke may be repeated over and over again until the movement becomes more or less subconscious or mechanical. 100

The main frame C is rigid and has only one ad- 110

justment, that is, its angular position with relation to the base A, as shown in Fig. 3, may be adjusted to obtain various degrees of flatness of swing pursuant to the different use of golf clubs.

5 This adjustment is obtained first of all due to the pivotal support provided by the bearing lugs 4 and 5, and secondly, by an adjustable rear arm generally indicated at E, see Figs. 2, 3 and 6. This adjustable arm or support consists of a pipe 10 7 which is pivotally secured at its upper end, as indicated at 8 see Fig. 5, to a bracket arm 9, this bracket being suitably secured to the upper portion of the main frame. The lower end of the pipe 7 extends downwardly between two channel-shaped arms 10 and 11, and these are pulled together to grip and secure the pipe 7 by means of clamping plates and bolts as indicated at 12. The upper ends of the arms 10 and 11 parallel the pipe, but the lower ends are bent outwardly on 20 an angle as indicated at 10a and 11a, see Fig. 2, and their ends are pivotally attached to the rear base brackets 3. An adjustable arm or support is thus provided whereby the main frame may be tilted to assume any angle desired. The pipe 7 is 25 furthermore provided with graduations, as shown in Fig. 5, so as to permit setting of the frame for the various clubs used.

The actual construction of the main frame is best illustrated in Figs. 7, 8 and 9. By referring 30 to Fig. 8, it will be noted that the frame is made of sections of angle iron and that they parallel each other and are spaced apart to form annular spaces or slots, such as shown at 14. It was previously stated that the frame was made up of 35 curved sections of angle iron and that the sections are joined, the method of joining the sections to form the complete frame is best shown in Fig. 9. A spacer bar 15 is riveted, as shown at 16, or otherwise permanently secured at the end 40 of one section. The opposite end of the spacer bar projects into the adjoining section of the frame and it is there secured by removable bolts 17. This construction is desirable as it permits the main frame to be taken apart and to be readily 45 assembled whenever desired. The slot or annular space 14 formed between the angle bars is provided for the reception of a series of rods 18. The inner ends of these rods are permanently attached to the outer face of the guide track D. 50 The outer ends of the rods project through the slot or space 14 and also through clamping brackets, such as shown at 19 see Figs. 8 and 9. Each clamping bracket is provided with a central orifice 20 through which the cooperating rod extends and each bracket is provided with a hook 21 and 55 a pair of clamping screws 22a so that the clamp may be tightened and rigidly secured on the main frame. The hook engages one flange of one angle bar and the screws the opposed flange of the 60 opposite angle bar, hence when the clamping screws 22a are tightened the angle bars will pull together and the rods 18 extending between them will be clamped and rigidly secured. The clamps are slidable longitudinally of the main frame 65 angle bars and so are the rods 18 and as the rods 18 are also radially adjustable with relation to the angle bars of the main frame and the brackets 19, practically any adjustment desired may be obtained. That is, guide track D may be moved 70 inwardly and outwardly with relation to the main frame and as it is made of flexible steel its curvature or shape may be altered to conform to varying orthodox or approved strokes. The adjustment provided, furthermore, permits the apparatus 75 to be adjusted for persons of varying height

and of varying length of arms, etc., and as the main frame supporting the guide track is angularly adjustable with relation to a horizontal plane, or in other words the base A, the flatness 80 of the stroke may also be varied as previously described.

In order that the club may be properly guided with relation to the track D a carriage F has been provided. The carriage is best illustrated in Figs. 85 8 and 9. It consists of a head member 22 on which is journaled a pair of rollers 23. The rollers are grooved to embrace opposite edges of the track D and anti-friction bearings are employed, as shown at 24, to reduce friction to a minimum. The head member also carries a socket bearing 90 25 and this supports a rod 26 on which is slidably mounted a clamping collar 27. A shoulder is formed on the rod, as shown at 28, and a head member is also formed, as indicated at 29, and springs are interposed between the clamp, the 95 shoulder and the head, as indicated at 30 and 31, to permit a slight longitudinal movement of the clamp 27 as will hereinafter be described.

A golf club, indicated at 32, is secured to the clamp at a point adjacent the head 33 of the 100 club, as shown in Fig. 8, and the club will assume the position shown in Fig. 1 at the commencement of a stroke. The club drives the carriage and, as it travels around the track, it guides the club and if the track has been given the proper 105 shape the movement of the club is bound to swing in the proper manner. The guide track, as previously stated, is made of flexible steel and as it is adjusted inwardly and outwardly with relation to the main frame C by means of the rods 110 18 and the clamps 19, it is possible that the surface of the track may present slight undulations. Such undulations as the carriage travels around the track would tend to impart longitudinal movement to the club as the pupil is swinging the club, 115 but this has been overcome in the present instance by providing the springs 30 and 31, as they will permit the clamping collar 27 to move endwise on the rod 26 and thereby compensate for any slight unevenness in the guide track. When 120 the club is swung to make a complete stroke there is a decided rotation of the club about its longitudinal axis due to wrist action. This "cocking" of the wrists on the back stroke, and "rolling" of the wrists on the follow through will be found 125 to be positive, as it will be found impossible to manipulate the club on the track without binding if the wrist action is not allowed to take place. Such rotation is also permitted as the clamp 27 swivels freely on the rod 26 and the rod, in turn, 130 is free to rotate on its longitudinal axis as it is attached to the head by the socket joint 25.

The main frame C, together with the track carried thereby, is twisted or elongated along its axis 135 to form a helix. Two free ends, such as shown at 35 and 36, will accordingly be formed and they overlap or cross each other at the point generally indicated at G. The portion of the frame or track 140 carried thereby ending at the point 35 is foremost. It determines the path taken by the club during the down stroke and as the club sweeps around the track it will again reach the point G and continue on to the point 36. This portion 145 of the track lies behind the portion of the track 35 and forms the finishing part of the stroke. The overlapping or crossing sections of the frame and track, indicated at G, are separated by the bracket arm indicated at 9, see Fig. 5. This ties and braces the frame sections with relation to each other and 150 additional bracing arms are employed, as indi-

cated by the numerals 40 to 47, inclusive. Telescoping sag rods, such as shown at 48, may also be employed and the frame whereby the track is supported is accordingly rigidly braced and supported.

It was previously stated that the pipe 7 was provided with graduations. Such graduations are also applied to the rods 18 and 48. By graduating these members it is possible to make a record of the adjustments required for different individuals so that the apparatus may be quickly changed where it is being used by several persons. By referring to Figs. 1 and 4, it will be noted that the base plate A is provided with a graduated mat upon which the pupil stands. The graduations are marked out in two inch intervals, both longitudinally and transversely, the markings being at right angles to each other. The longitudinal markings, however, run at an angle of 5° to the axis of the arc, and perpendicular to these markings is a direction indicating line 60 which indicates the line of flight. This gives the travel of the club relative to the body a slight "inside the line of flight out" movement conducive to a straight ball. The various strokes producing a straight, hooked or sliced ball are produced by varying the stance relative to the line of flight, thereby changing the path of the swing relative to the body. The base is elevated to a point where the pupil's feet are in the same plane with the bottom of the club attached to the carriage so that if a ball was placed in the path of the club as it is being swung it would be struck. By providing the graduated base, the proper position or stance taken by the pupil may be determined and this position will always be assumed when practicing.

The carriage and the rod to which the club is attached are preferably made of aluminum or any alloy thereof so as to reduce weight to a minimum, and as anti-friction bearings are employed comparatively little resistance is encountered when swinging the club properly. One end of the guide track terminates against the frame end 35 and the opposite end of the track terminates against the end of the frame indicated at 36. The ends function as stop members to prevent the carriage from running off the track. Adjustable stop members may, however, be employed, as shown at 50, and may be braced any place along the track and as such regulate the length of the back stroke or the follow through portion of the stroke; this being important and desirable in making certain shots with iron clubs, etc.

The adjustable track D, at its lowest support is marked, as at 61, on its inner face, the mark corresponding to the projection of the longitudinal center line 61a marked on the foot mat. These points are fixed at all times and are the low points of the arc. Projections of the other longitudinal markings are also shown, as indicated at 62, as in starting the back stroke these points represent the position of the ball relative to the feet on the graduated mat, and are variable with the club to be used, and the back spin or top spin imparted to the ball.

While certain features of the present invention

are more or less specifically described, I wish it understood that various changes may be resorted to within the scope of the appended claims. Similarly, that the materials and finish of the several parts employed may be such as the manufacturer may decide, or varying conditions or uses may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. An apparatus of the character described comprising a frame of generally helical shape, means supporting said frame, a flexible trackway spaced from said frame, and a plurality of adjustable members connecting the frame and trackway.

2. An apparatus of the character described comprising a frame of generally helical shape, a flexible trackway spaced from said frame, and a plurality of adjustable members connecting the frame and trackway, said adjustable members being mounted for adjustment longitudinally of the frame.

3. In an apparatus of the character described which comprises a trackway for guiding a golf club as it is swung, a carriage movable along the trackway, means for connecting a club to the carriage, and a resilient means interposed in said connection to permit slight flexibility of movement longitudinally of the club.

4. An apparatus of the character described, comprising a base, a trackway conforming in shape to the path of a golf club when properly swung, a frame of the same general shape as the trackway and supported by the base, and adjustable connections between the frame and trackway whereby the shape of the trackway may be adjusted.

5. An apparatus of the character described, comprising a base, a trackway conforming in shape to the path of a golf club when properly swung, a frame of the same general shape as the trackway and supported by the base, adjustable connections between the frame and trackway whereby the shape of the trackway may be adjusted, and means for attaching a golf club to the track for sliding movement therealong.

6. An apparatus of the character described comprising a base, a flexible trackway conforming in shape to the path of a golf club when properly swung, a rigid frame surrounding the flexible trackway, said frame being supported by the base, and a plurality of adjustable connections between the trackway and the frame whereby the shape of the trackway may be adjusted.

7. An apparatus of the character described comprising a base, a flexible trackway conforming in shape to the path of a golf club when properly swung, a rigid frame surrounding the flexible trackway, said frame being supported by the base, a plurality of rods secured to the trackway and extending radially and outwardly away from the face of the trackway and through the frame, and an adjustable connection between said rods and the frame whereby the rods may be adjusted lengthwise in the frame and also longitudinally of the frame.

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