Jan. 13, 1959 F. ZEGA 2,868,543

GOLF CLUB GUIDE

Filed May 23, 1955 4 Sheets-Sheet 1

Fig. 1

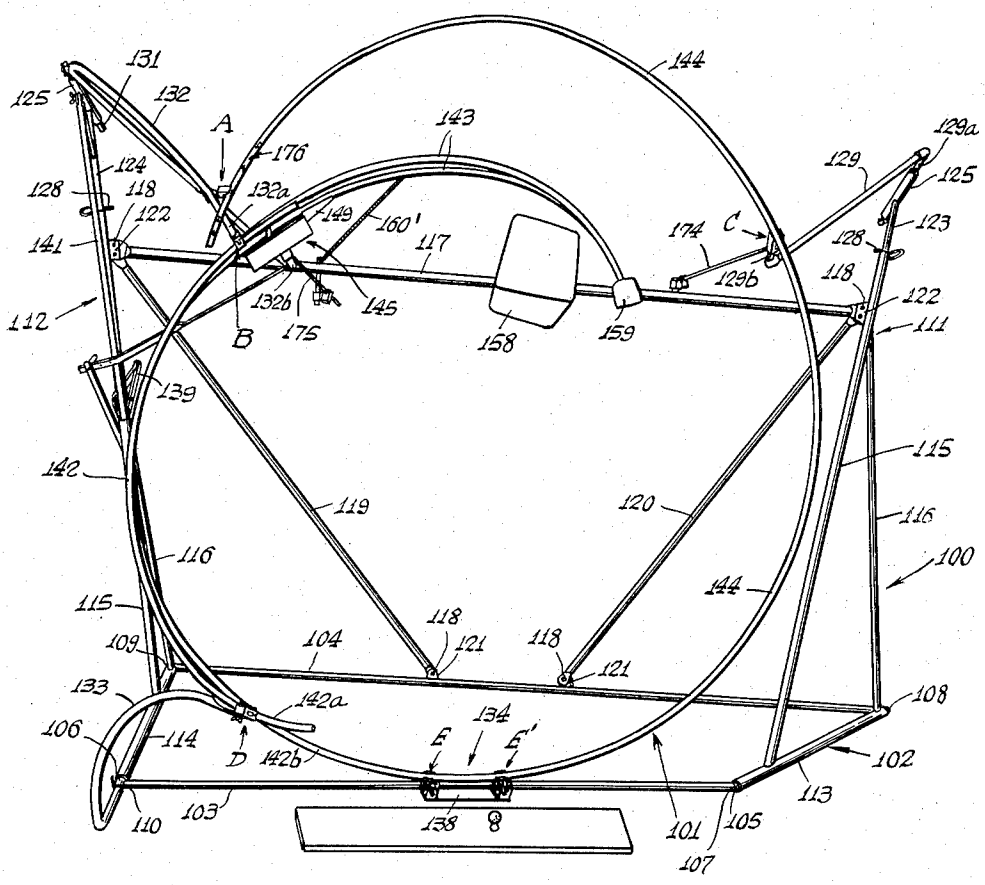


Fig. 5

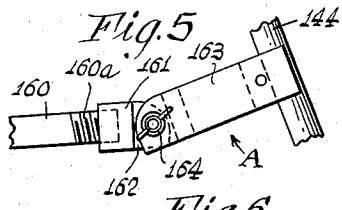
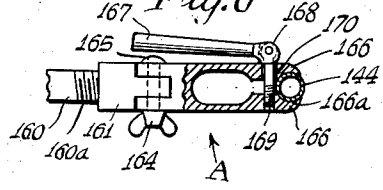


Fig. 6



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Fig. 2

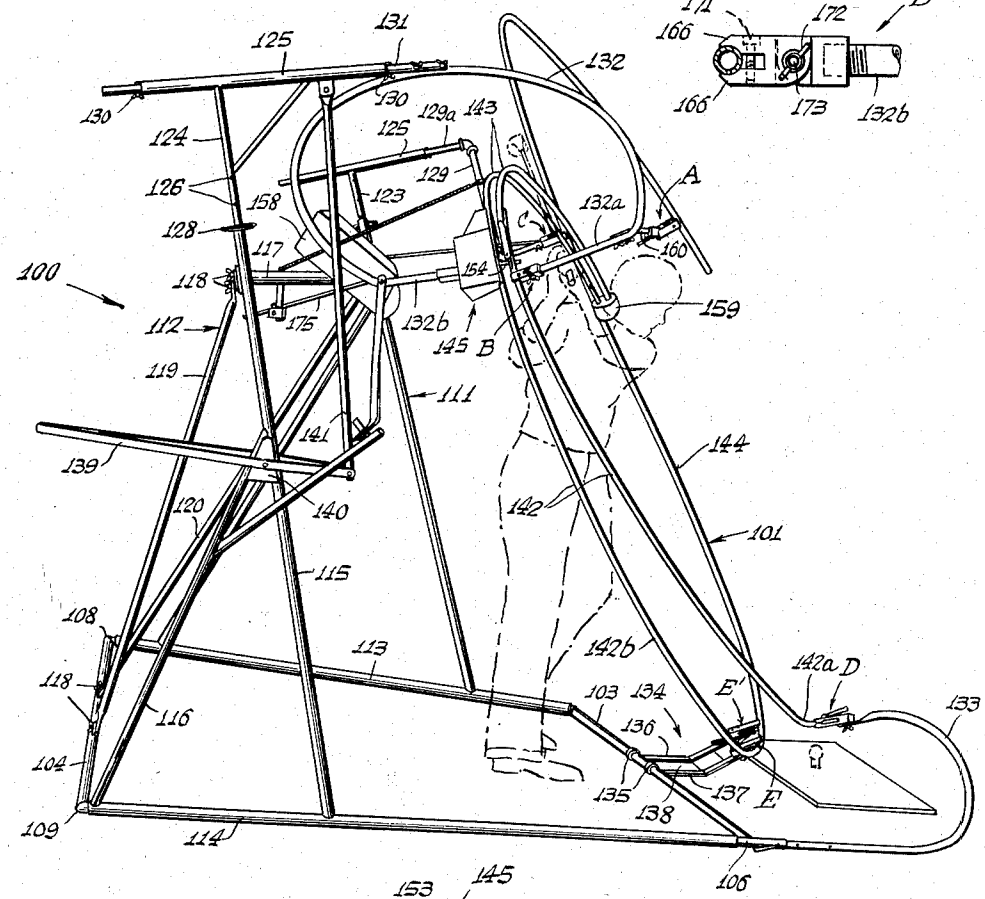


Fig. 7

Fig. 11

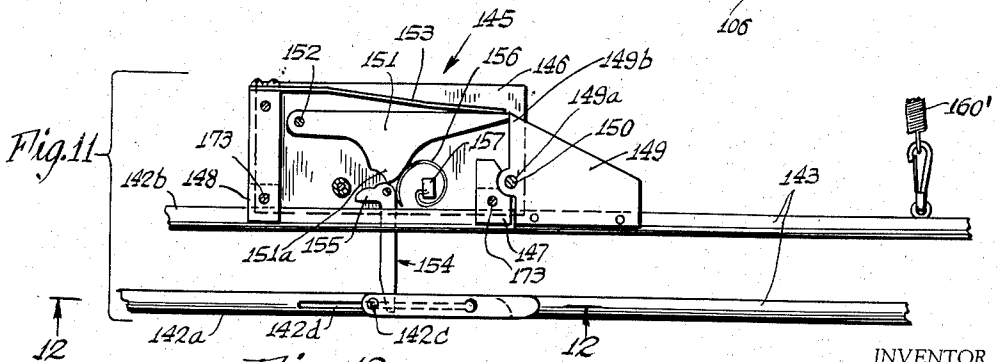
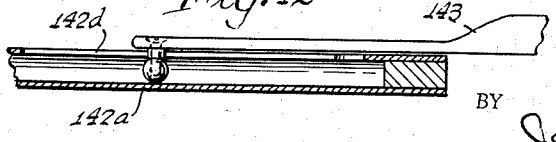


Fig. 12



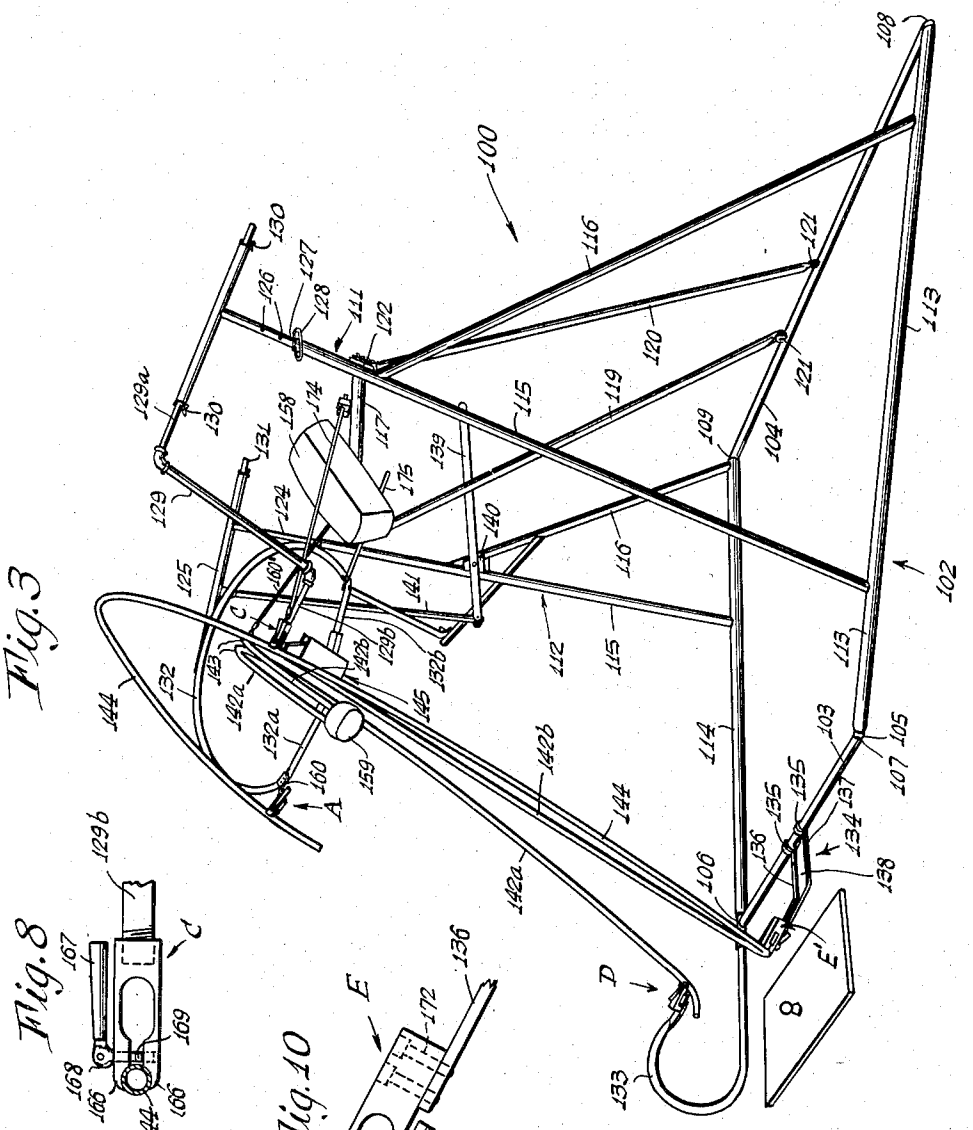
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GOLF CLUB GUIDE

Filed May 23, 1955 4 Sheets-Sheet 3



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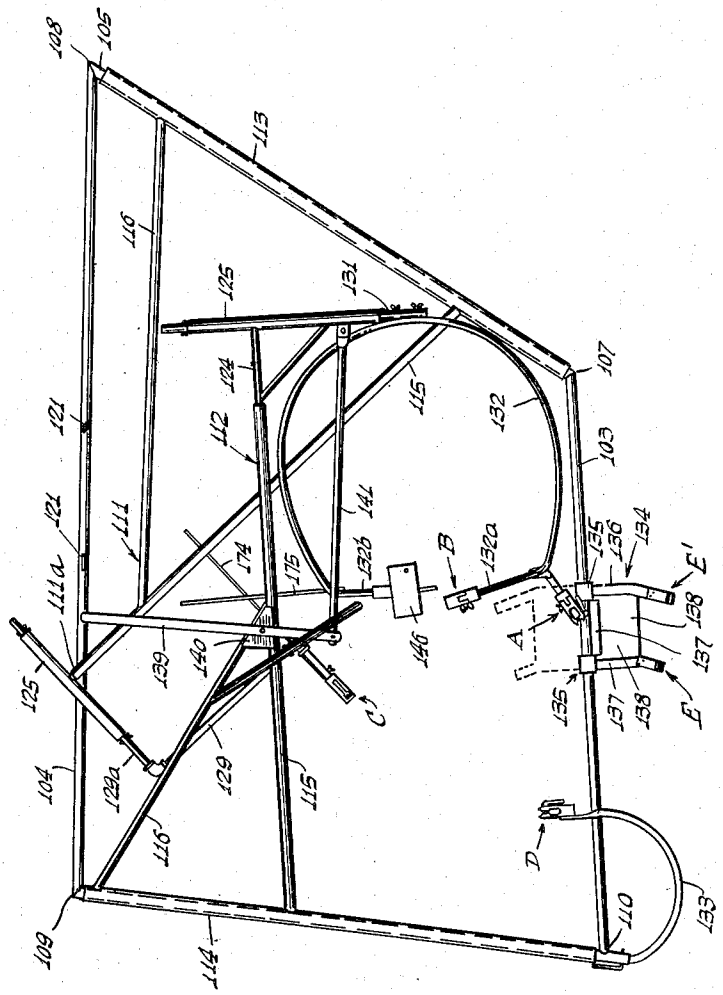
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Fig. 4



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United States Patent Office 2,868,543 Patented Jan. 13, 1959

2,868,543

GOLF CLUB GUIDE

Frank Zega, Bridgeport, Conn.

Application May 23, 1955, Serial No. 510,279

6 Claims. (Cl. 273—191)

This invention relates to a mechanical instruction device, and more particularly to an adjustable and knockdown instruction device of the type adapted to guide a golf club in a predetermined, prescribed swing for the purpose of perfecting and correcting the swing.

Further, this invention relates to improvements in the mechanical instructing devices described in my Patent No. 2,653,025 dated September 22, 1953, and in my copending applications, Serial No. 415,403 filed March 10, 1954, now Patent No. 2,756,056 issued July 24, 1956, and Serial No. 438,693 filed June 23, 1954, now Patent No. 2,813,721 issued November 19, 1957.

An object of this present invention relating to a golf instruction device, which by inherent construction thereof is relatively bulky, intricate and cumbersome, is to provide for a novel arrangement of parts whereby the device is erected and constructed so that it may quickly and simply be knocked down from its erected operative position to a folded, inoperative position so that the device may be readily stored, packed, crated and shipped thereby rendering it portable.

Another object of this invention is to provide for a knockdown golf instruction device which may be erected or knocked down without the use of any heavy hand tools.

It is another object of this invention to provide a mechanical instruction device for guiding a golf club which is readily adjustable to accommodate players of different heights whereby the arc of the prescribed golf swing of the device is proportionately maintained throughout its entire length so that the arc of the swing remains substantially true in all adjusted positions thereof.

Still another object of this invention is to provide in an adjustable mechanical golf instruction device, an arrangement whereby the device is rendered operative only when the adjustments are correctly made according to the height of the player, and is rendered inoperative, if for any reason the adjustments are not properly coordinated.

These objects are accomplished by a frame having a base member which has pivotally mounted thereto a pair of stanchions on either side thereof. The stanchions are further supported and maintained in erected position by suitable bracing members which are detachably mounted thereto, the stanchion and base members being further provided with novel clamping means which securely supports a guide rail, and a curvilinear rail formed to simulate a predetermined prescribed golf swing.

The portion of the guide rail forming the backswing and the initial downswing is composed of a double space rail to form a track, and the follow-through portion of the swing being formed of a single rail, the latter being a continuation of one of said pairs of rails. The clamping means are so formed and arranged that they may be manually disengaged from the guide rail so that the latter may be bodily removed from the base and stanchion. With the guide rail and bracing members removed, the stanchion members being pivotally mounted to the base, are free to be alternately folded so that in the folded

positions the stanchions are substantially parallel with the base and are confined within the area of the base. Cooperating means are further provided whereby in the erected positions the guide rails may be rendered adjustable to accommodate players of different heights. The cooperating means regulating or controlling the adjustments are so arranged that, if for any reason one of the cooperating means are improperly positioned, the device is rendered inoperative. Therefore it is necessary in the device of the present invention that the adjustments be properly coordinated in order that the device may be rendered operative.

A feature of this invention resides in the provision of a mechanical golf instruction device having cooperating adjusting means for accurately controlling the arcuate proportion of a predeterminate, prescribed golf swing according to the height of the player.

Another feature of this invention resides in the provision whereby the cooperating adjusting means further controls the spacing between the pair of rail portions of the guide rail means so that when the device is maladjusted for any reason, the spacing between the pair of rails is restricted, thereby preventing passage of the golf club on the backswing and rendering the device inoperative in all but the correctly adjusted position.

It is another feature of this invention to provide a removable rail means which is bodily removed from the frame member simply and quickly.

It is another feature of this invention to provide for novel clamping means which removably support the guide rails to the frame.

A further feature of this invention resides in the provision of a frame that includes stanchions which are pivotally mounted to a base member so that in the erected operative position stanchions are maintained in substantially perpendicular relation to the base and which in the knockdown or folded position are alternately folded so that they are substantially parallel to the base member and confined within the area of the base.

Another feature of this invention is to provide for a base fitting which supports the lower end of the guide rail to be pivotally mounted to the base member so that in the folded position the base fitting may be pivoted approximately 180 degrees relative to the base so that it lies within the area or confines of the base member.

Another feature of this invention resides in an improved hinge and latch means for swinging the exterior end portion of the guide rails outwardly to provide clearance for the golf club during the follow-through of the golf swing.

Other features and advantages will be apparent from the specification and claims when considered with the drawings, in which:

Figure 1 is a front elevational view of the improved mechanical golf instruction device.

Fig. 2 is a side elevational view of the golf instruction device looking at it from the left side of Fig. 1.

Fig. 3 is a side elevational view of the device looking at it from the right side of Fig. 1.

Fig. 4 is a plan view of the device in the knockdown or folded position with the guide rail removed.

Fig. 5 is a detail view of a novel clamping means A.

Fig. 6 is a detail side view of the clamp A, a portion of which is shown in section.

Fig. 7 is a detail side view of clamp B.

Fig. 8 is a detail side view of clamp C.

Fig. 9 is a detail side view of clamp D.

Fig. 10 is a detail side view of clamps E and E'.

Fig. 11 is a plan view of the improved hinge and latch mechanism with the top plate of the mechanism removed to show the details of the latch and hinge.

Fig. 12 is a detail sectional view taken along line 12—12 of Fig. 11.

The present invention is directed to an improved mechanical golf instructing device, which as illustrated in the accompanying drawings, particularly Figs. 1–4, includes a novel knockdown frame structure **100** having adjustably and removably mounted thereon an improved guide rail means **101** simulating an ideal, predetermined, prescribed golf swing.

As illustrated and described in my Patent No. 2,653,025 and copending applications Serial No. 415,403 filed March 10, 1954, now Patent No. 2,756,056 issued July 24, 1956, and Serial No. 438,693 filed June 23, 1954, now Patent No. 2,813,721 issued November 19, 1957, the mechanical golf instructing device by construction is inherently cumbersome, intricate, complex and bulky, and consequently it was difficult to move, pack, store or ship the device from place to place. Therefore, it is an object of the present invention to provide a mechanical golf instruction device which is arranged so that it is rendered readily portable.

This is accomplished, according to this invention, by the novel arrangement whereby the guide rail means **101** is adapted to be bodily removed from the frame **100** so that the frame, as will be hereinafter described, may be readily knocked down from an erected, operative position as illustrated in Figs. 1–3 to a compact knockdown position illustrated by Fig. 4.

According to this invention the frame structure **100**, preferably constructed of tubular members, includes a base **102** having front and rear members **103** and **104** respectively, and right and left side members **105** and **106** respectively. The front member **103**, being somewhat shorter than the rear member **104**, is spaced from the latter so as to be substantially parallel thereto. Side members **105** and **106** are connected to the front and rear members to form an irregularly-shaped polygon substantially as shown in the plan view of Fig. 4.

It will be noted that the base **102** so formed provides a sufficient support for the device, while at the same time utilizing a minimum of floor space and/or storage space.

While the members of the base may be connected by any suitable means, in the illustrated form the corner sections **107**, **108** and **109** of the base are mitered and welded together. At the junction **110** the front member **103** is welded intermediate the ends of the left side **106** at substantially right angles thereto so that the side member **106** extends slightly beyond the front member. See Fig. 4.

Pivotally mounted to the respective side members are a right stanchion means **111** and a left stanchion means **112** so that in the erected operative position the stanchion means **111** and **112** are substantially perpendicular to the base **102**, as seen in Figs. 1 and 2, and in the knockdown, inoperative position the stanchion means **111** and **112** are alternately folded so that they lie substantially parallel to the base and flush therewith, whereby the stanchion means **111** and **112** are substantially confined within the area of the base as shown in Fig. 4.

It will be noted that the right stanchion means **111** is folded first and the upper extremity **111***a* thereof rests on and is supported on the rear member **104**, whereupon the left stanchion **112** is then folded so that it rests on and is supported by the right stanchion means **111** as shown in Fig. 4.

The right and left stanchion means respectively include transverse sleeve portions **113** and **114** respectively, which are rotatably mounted on their respective side members. To accomplish this the transverse sleeve portions **113** and **114** are provided with a diameter slightly larger than that of the side members and are positioned thereon so as to permit the sleeve portion to be freely rotatable thereon. A main stanchion member or post **115** is welded intermediate the ends of the sleeve so as to incline upwardly and rearwardly therefrom at an angle of approximately 70 degrees when in the operative position as shown in Fig. 2. Connected to an intermediate

portion of the stanchion member **115** and forming therewith an inverted Y, is a brace **116** which connects with the transverse sleeve member to rigidly support the main stanchion **115** at its respective angle. Thus, as shown, the brace **116** and the stanchion member **115** are freely rotatable relative to the base.

In order to maintain the stanchion means in erected position, there is provided a tie bar **117** which extends between the stanchion members **115**. Braces **119** and **120**, connected to the junction of the tie bar **117** and the stanchion **115** and to the rear member **104**, are provided to give the frame added rigidity.

The tie bar **117** and braces are arranged so as to be readily removable so that the device can be knocked down. To accomplish this result the tie bar and braces are removably mounted to lugs **121** positioned in the rear member and lugs **122** projecting transversely of the stanchion member adjacent the upper end thereof. Wing nuts and bolts **118** are utilized to facilitate the removal of the tie bar and braces when it is desired to render the device compact for moving or storage.

In the upper extremities of the right and left stanchion member **115** there is provided stanchion extensions **123** and **124** respectively, which are topped by a tubular cross bar **125**. For reasons to be hereinafter disclosed the stanchion extensions **123** and **124** are provided with a plurality of helically spaced openings **126** which are adapted to be aligned with an opening **127** adjacent the upper portion of the stanchion post **115** so that the stanchion extension is telescopically adjustable relative to the stanchion post by aligning openings **126** and **127**. A pin **128** having a handle extends through said aligned opening to maintain the stanchion extension in adjusted position relative to the main stanchion.

Rotatably mounted in the cross bar **125** of the right stanchion extension **123** is a substantially Z bracket **129**, the leg **129***a* being smaller in diameter than that of the cross bar **125**, so that the former rotates relative thereto. Cotter pins **130** projecting through the leg **129***a* adjacent both ends of the cross bar **125** form a stop to maintain the bracket **129** in position relative to the cross bar **125**. The other end **129***b* of the bracket carries a clamping fixture C for clamping and removably supporting a portion of the guide rail to the frame.

The left stanchion, like that of the right stanchion, is provided with a stanchion extension **124** similar to that as described for the right stanchion. However, the left stanchion has rotatably mounted in the transverse cross bar **125** a rod **131** having secured thereto a resilient means in the form of a loop member **132** which is adapted to support the guide rail means in a manner as will be hereinafter disclosed.

The loop is substantially C-shaped wherein the terminal ends **132***a* and **132***b* are spaced an amount sufficient to permit passage of the lower shank portion of a golf club as will be more fully disclosed herein. One end **132***a* is provided with a novel hinge and latch means and the other is provided with a clamping fixture B for supporting a guide rail, as will be hereinafter disclosed.

As shown in Fig. 2, extending beyond the forward end of the left side member **106** is extension member **133** which is upwardly, backwardly and inwardly curved and has positioned on the end thereof a clamping fixture D which is adapted to removably support the lower end of the rail **142***a*. It will be noted that the member **133** is telescopically adjusted thereon and is adapted to telescope within the side member in the knockdown position.

Also pivotally mounted to the front member **103**, intermediate the ends thereof, is a base fixture **134** which in the erected position of the device is adapted to project outwardly therefrom for supporting the lower end of the guide rail in the vicinity of the point of impact between the ball and the golf club. In order that in the knockdown position the device occupies as little space as possible, the base fitting is rotatably mounted to the front so

that it is arranged to be rotated approximately 180 degrees so that in the knockdown position it is confined within the area of the base. Thus the area of the device in the knockdown position is reduced by the amount that the base fitting projects outwardly therefrom.

To accomplish this the base fixture 134 is provided with sleeve collars 135 which are rotatably mounted on the front member and have projecting outwardly therefrom a pair of spaced parallel arms 136 and 137 having a clamping means E and E' respectively mounted on the ends of each of them. Connecting the arms is a plate 138. A transverse bar 137 welded to the front member between the collars 135 inclines downward so as to engage the plate 138 and forms a stop, thereby preventing the base fixture from rotating in an upward direction about the front member 103 when the device is in use. Thus, in order for the base fixture 134 to be pivoted about the front member 103, as shown in the knockdown position, the base is raised so that the base fixture is pivoted down and under the base member so that in the knockdown position the fixture is positioned within the confines of the base as shown in Fig. 4.

To facilitate in the adjustment of the device, the left stanchion is provided with an operating lever 139. A plate 140 welded at the junction of the brace 116 and main stanchion member 115 is provided with a fulcrum about which a lever is mounted. A tie rod 141 connecting one end of the lever 139 to the cross bar 125 of the stanchion extension 124 enables an operator, by exerting a force on the other end of the lever, to cause the stanchion extension 124 to be raised relative to the main stanchion 115 upon removal of the pin 128.

Mounted on the frame 100 is the improved guide rail means 101. According to this invention the guide rail means is arranged and supported on the frame so as to be relatively adjustable thereon and bodily removed therefrom. Generally the guide rail means includes a first portion which comprises a double rail 142 or a pair of spaced upper rails 142*a* and lower rails 142*b* forming therebetween a track which guides the lower shaft portion of a golf club in the backstroke and initial downstroke of the swing in a manner which is considered to be an ideal and prescribed path. As will be hereinafter described, the upper end portion 143 of the double guide rail is hingedly mounted so that during a swing the portion 143 is adapted to swing backwardly to provide clearance for the club on the follow-through of the swing, the spacing between the double rails being sufficient to permit free passage of the club therethrough so that it does not stray from the ideal or prescribed path when and only when the guide rail is properly adjusted, as will be herein described.

As illustrated, the double track 142 forms approximately one-half of the prescribed swing. The remainder of the guide means includes a single rail 144 which is connected to and forms the continuation of one of the pairs of guide rails. As shown the single rail 144 is a continuation of the lower rail 142*b* and it will be noted that the single rail follows a curvilinear path or arc which is substantially higher than that of the double rail portion and which crosses over in front of the double rail. It has been found that during the latter portion or follow-through of the swing of the golf club, there is a tendency on the part of the player swinging the club to direct the club backward rather than forward. Therefore, because of this natural reaction on the part of the player, the club will be generally maintained in contact with the single rail without the aid of additional guide means.

According to this invention the guide rail means is constructed to function very effectively in properly guiding the golf club during the swing in an ideal or prescribed manner in order to perfect or correct the same. The rail means are preferably formed of stainless steel tubing of sufficient resiliency so that it is rendered readily adjustable. The curvilinear path or arc which the guide rail

means forms has been constructed and shaped to simulate an ideal or prescribed golf swing. To accomplish this the arc of the guide rail has been painstakingly constructed and, as finally formed and illustrated, the arc constitutes a composite swing of several professional golfers which incorporates therein the theoretical and ideal portions or features of the swing of each of the several professional golfers. It was my thought that in this manner I could produce a guide means simulating an ideal swing which would be universally adapted for correcting and perfecting the common faults or bad habits of players who have a desire to overcome such faults or habits. Thus, a player practicing his swing in the device of the present invention, by continually having his club guided by the rail guide means, would soon develop the feel of the ideal and theoretically perfect swing. As a result, by a little practice with this device the player's common faults and bad habits are overcome.

Because of the stance of the person using the club, the grip and positions of the arms, etc., it will be noted on the prescribed backstroke of the swing, that the end of the club will always remain free from any interference with the higher arced single rail portion of the guide means which is positioned at a distance substantially higher than that of the upper portion of the double guide rail portion. On the follow-through, however, the swing or movement of the club produces a larger radius due to the normal shift of the stance, position of the hands and arms, etc. of the player, and accordingly the club is guided along an arc having a greater radius so that the single rail portion functions to properly guide the golf club in a prescribed manner on the follow-through portion of the stroke.

During the backstroke of the swing the upper arcuate portion of the single guide rail 144 is free from interference with the end of the club. However, the same is not true on the follow-through portion of the club. By construction of the guide rail means, the upper end portion 143 of the double track of the guide means, as best seen in Fig. 3, is so positioned that unless it is in some manner displaced it would interfere with the club on the follow-through portion of the swing. Therefore, in order to avoid such interference on the follow-through portion of the stroke, an improved latch and hinge means 145 are provided whereby the juxtaposed end portions 143 of the double track guide 142 are automatically pivoted rearwardly and away from the path traveled by the club in the follow-through portion of the stroke.

This is accomplished by providing an improved latch and hinge construction which is triggered by the club on the initial downstroke of the swing.

As shown in Figs. 11 and 12 a novel hinge and latch means 145 includes a housing 146 which is connected to an intermediate portion of the double track rail adjacent that portion thereof which is adapted to be rearwardly displaced so that the club will not interfere therewith on the follow-through portion of the swing. The housing includes an upper and lower plate secured to the opposite side of the clamping means 147 and 148, the latter being fastened to the rail 142*b* for detachably mounting the rail thereto. The guide rail portion 143 adjacent the housing and which portion is adapted to be rearwardly displaced, has fixed thereto a hinge plate 149. The hinge plate 149 is hingedly connected to the housing by aligning the opening 149*a* of the hinge plate with aligned openings in the housing and inserting therethrough a pin 150 forming a pivot for the hinge about which the end portion 143 of the double track pivots. In order that the housing may be detachably mounted to the rail 142*b* the clamping means 147 and 148 are provided with an Allen head screw 173 by which the clamps may be manually secured or removed therefrom. As it will be subsequently noted, an Allen wrench is the only tool required to knock down the device. The pin 150 forming the pivot between the housing 146 and hinge plate 149 is readily removable so that the housing 146

which is mounted to the loop may become free from the hinge during the removal of the guide rail from the frame.

The double rail sections are normally maintained in alignment as indicated in Fig. 11 by a latch arm 151 mounted between the plates and carried on a pivot 152 secured to the plates. In normal extended position, as shown, the latch arm is engageable with an end portion 149*b* on the hinge plate. A leaf spring 153 normally urges and holds the arm 151 in locking position as shown. In use the locking arm is automatically actuated by an L trigger 154 carried by a pivot secured to the lower plate. A transverse finger 155 connected to the trigger is engageable with a laterally projected portion 151*a* of the latch arm when the trigger is actuated by the club.

Normally the trigger is held in non-releasing position as shown in Fig. 11 by a flat spiral spring 156, the inner portion of which is fixed in a block 157 and the outer spiral portion is maintained in position against the trigger 154 and the laterally projecting portion 151*a* of the latch arm. Thus it will be noted that on the backswing of the club, the trigger allows the club to pass by it without effecting actuation of the latch, but that upon the initial downsroke of the swing the trigger is displaced clockwise whereby the finger 155 engages the portion 151*a* of the latch thereby tripping the locking arm 151 of the latch. Upon tripping of the latching arm the spring 160' connected between the tie bar and the rail 142*b* causes the rail portion 143 to be angularly and rearwardly displaced to permit the club to be free from interference therewith on the follow-through portion of the stroke. In order to facilitate such angular displacement the upper portion of rail portion 142*a* is provided with an elongate slot 142*d* having an enlarged opening in one end for receiving a pin 142*c* connected to the outer upper rail 143 so that the portions 143 may pivot in unison relative to the lower rail 142*b* portion to which the spring 160' is removably attached. Pin 142*c* includes a ball portion slidably mounted within the rail 142*a* and is removable therefrom to separate 143 from 142*a* to knock down the rail, thus rendering the rail separable into three distinct units, 143, 142*a* and 142*b*. Thus it will be noted that by the time the club reaches the follow-through portion of the stroke, the upper interfering portion 143 of the guide rail is swung rearwardly, permitting uninterrupted travel of the club on the follow-through. To reset the guide rail means, the ends 143 of the guide rails are manually restored to their normal extended position, the restoring movement permitting the latch arm 151 to lock the hinge 149 in its operative position as shown in Fig. 11.

For the purpose of absorbing the impact or blow when the upper portion 143 of the guide rails is automatically swung backward, a thick pad 158 of yielding or spongy material is disposed on the tie bar in the path of movement of the rail. Thus this pad acts as a stop to halt the rearward movement of the pivoting portion of the double guide rail means without unnecessary noise or disturbance. Also the end of the double rail is protected by a pad 159 to protect club and player from inadvertent contact with the ends of the rail.

Clamping means A, B, C, D, E and E' are arranged on the frame member as illustrated in Figs. 1 to 3 and removably support the guide rail to the frame. As shown, the clamping means A is connected to a rod 160 which is fixed to the loop 132 as shown in Figs. 1–4. The end of the rod 160 is provided with a threaded portion 160*a*, Figs. 5 and 6, and has threaded thereto a body 161 having an apertured tongue 162. It will be noted that the thread portion enables the body 161 to be rotatably moved about the rod 160.

A clamp 163 having a bifurcated end portion is pivotally connected to the tongue of the body by means of a swing nut 164 and bolt 165. The other end of the clamp 163 is provided with a pair of resiliently spaced jaw members 166 having a bearing portion 166*a* which is adapted to grip the guide rail portion 144 as shown in detail in Figs. 5 and 6. Normally the jaws are urged away from each other.

In order that the jaws 166 may be urged into clamping position or released therefrom, there is provided a manually operated lever 167. The end of the lever is provided with a bifurcated eccentric cam 168 which is pivotally mounted to an eye bolt 169 extending transversely of the jaws. Thus it will be noted that when the lever 167 is positioned substantially parallel to the body of the jaw member as shown in Fig. 6, the eccentric cam portion 168 urges the jaws into clamping relation. When the lever is rotated substantially to the perpendicular position the eccentric portion 168 permits the jaws to be released from the rail. In order that the upper jaw may have freedom of movement, the opening 170 through which the eye bolt 169 extends is slightly larger than the diameter of the eye bolt.

Clamp B, connected to end 132*a* of the loop, shown in detail in Fig. 7, is substantially like clamp A with the exception that the jaws 166 are maintained in clamping position by an Allen head screw 171 or the like. Therefore, it is preferred that this clamp be fixed to the rail and that removal of the guide rail be accomplished by removal of the wing nut 172 and bolt 173 when it is so desired. However, as an alternative, the screw 171 may be loosened to release the jaws.

The clamping means C is rotatably connected to end 129*b* of bracket 129 and is constructed substantially as clamp A with the exception that the jaw portion of the clamp is directly connected to the bracket as shown in Fig. 8. Since the jaws are threadedly engaged to the bracket, as illustrated, the clamp C is free to rotate thereabout during the adjustment of the rail means.

The clamping means D, E and E' are similar to the clamping means C with the exception that these clamps are not rotatably secured to the frame elements, but are rather affixed thereto by means of fasteners such as bolts, rivets and the like 172. Therefore, clamps D, E and E', which are mounted to the extension 133 and to the base fixture 134 respectively, remain substantially fixed during all adjustments of the rail.

The clamping means 147 and 148 of the hinge and latch mechanism 145 are removably secured to the rail 142*b* by means of Allen head screws 173. Thus, when it is desirable to remove the rail guide means 101, it is necessary that the Allen head screws 173 be loosened to release clamps 147 and 148.

As illustrated in Figs. 1–3 it will be noted that the guide rail 101 is arranged on the frame so as to be inclined upwardly and rearwardly relative thereto. It will be further noted that the portion of the guide rail supported by the base fixture 134 tends to project outwardly and upwardly therefrom. In other words the clamp E' extends slightly beyond the clamping means E. This has been found necessary in order that the club be properly positioned as it strikes the ball.

If desired, additional strut members 174 and 175 may be provided for securely maintaining the rail in its adjusted position. These brace members are substantially the same as described in my copending application, Serial No. 438,693, supra, now Patent No. 2,813,721 issued November 19, 1957.

Because the arc or path in which the golf club travels is dependent on the size and height of the player, it is a further object of the invention that the guide rails be adapted to be adjustably positioned according to the individual player. According to this invention the guide rail 101 is readily adjusted to the individual player simply and quickly and with very little effort. This is accomplished by adjusting the stanchion extensions 123 and 124 to the predetermined prescribed height, determined by the height of the player, by setting the clamp A at

a corresponding position as indicated by the index **176** on the end of the single guide rail.

The sequence in which the adjustments are made is immaterial; however, it is important that the adjustments are coordinated in order that the device is rendered operative. For example, as the stanchion extensions are raised or lowered, the clamping members A, B and C, **147** and **148** are displaced upwardly or downwardly, outwardly and backwardly accordingly. As part of the adjustment, the clamping means A must also be positioned to the proper location on the end of the single guide rail to correspond to the position of the stanchion extension. Accordingly, by only these simple adjustments the ideal arc is varied according to the size of the person and is maintained proportionately throughout.

Since the clamping members are securely clamped to the rail members, there is no longitudinal movement of the rail means relative to the clamps, and the rotary movement of the clamping members A, B and C, relative to the clamp of the hinge and latch means as the stanchion adjustments are made, causes the rails to be put in torsion. Because of this torsion effect, should any of the adjustments not be properly made or positioned, the torsion set up in the guide rail causes the space between the double rails in the vicinity of the hinge and latch mechanism to be restricted. As a result, it becomes impossible for the club to be guided therebetween and the device is rendered inoperative unless the three adjustments above mentioned are properly coordinated.

In the properly adjusted device, a player is positioned relative to the device as illustrated in Fig. 2. The player assumes a stance whereby his toes are spaced parallel to the front member. Also, the base is used to properly position the ball so that the line of flight of the latter is parallel with the base. Thus it will be seen that the base of the device aids the player in assuming the proper stance and proper positioning of the ball relative thereto.

As the player begins his swing, the double rail guides his stroke in the backswing in the prescribed manner. About half-way back, the club passes the trigger without incident. As the backstroke is completed and the player begins the initial downstroke, the club engages the trigger and rotates it clockwise thereby releasing the latch and hinge mechanism. This release causes the end portion of the double track to swing rearwardly, enabling the club to travel smoothly and accurately throughout the remainder of the follow-through stroke.

To render the device portable the rail **101** can be bodily removed by releasing the clamp of the latch mechanism, **145**, removing hinge pin **150** and releasing the clamping means A, B, C, D, E and E' in the manner described, thus enabling the rail to be bodily removed from the frame. Removing the wing and nut bolts **118** supporting the tie bar **117** and braces **119** and **120** renders the stanchion members free to rotate about the base **102** so that they may be folded to the position as shown in Fig. 4. The rail means **101** and tie bar can then be laid flat thereon, whereby the whole device is readily portable and is capable of being transported rather easily. It will be noted that in the knockdown position, the space occupied by the device is such that it may be readily positioned alongside or on top of an average automobile.

The device herein described provides an accurate and positive means for perfecting and correcting a golf swing with minimum effort and is so arranged that it may be readily knocked down so as to render it portable. Further, the device when in use is rendered operative only when the adjustments are coordinated to suit the individual player. Also the manner in which the device is adjusted insures that the curvilinear path or arc of the rails forms a true and ideal simulated swing to accommodate a particular individual player, so that the latter with little practice acquires the feel of the ideal and prescribed swing.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. In a mechanical instruction device including curvilinear guide rail means conforming to the path of a prescribed golf swing for guiding a golf club during said golf swing, the combination of a base having front, rear and end members rigidly secured together, end stanchions pivotally mounted on the end members, and tie bar means releasably connecting the stanchions to hold the stanchions in upright divergent position, said stanchions folding about the end members into overlying relation with said base when said tie bar is disconnected from said stanchions, means for releasably mounting the lowest portion of the curvilinear guide means to said front member, clamping means mounted on the upper ends of said stanchions for adjustment vertically and horizontally, said clamping means being adapted to releasably clamp and support the upper portions of said guide rail means, said clamping means being adjustable vertically to accommodate players of various heights and said clamp means being adjusted horizontally to support the upper portion of said guide rail means as the guide rail means pivots about the connection to the base member in response to vertical adjustments of said clamping means.

2. In a mechanical instruction device including curvilinear guide rail means conforming to the path of a prescribed golf swing for guiding a golf club during said golf swing, the combination of a base having front, rear and end members rigidly secured together, end stanchions pivotally mounted on the end members, and tie bar means releasably connecting the stanchions to hold the stanchions in upright divergent position, said stanchions folding about the end members into overlying relation with said base when said tie bar is disconnected from said stanchions, means for releasably mounting the lowest portion of the curvilinear guide means to said front member, clamping means adapted to releasably clamp and support the upper portions of said guide rail means adjacent said stanchions, and means mounting said clamping means on the upper ends of said stanchions for adjustment vertically and horizontally, said clamping means being adjustable vertically of the stanchions to accommodate players of various heights and being adjusted horizontally to support the upper portion of said guide rail means as the guide rail means pivots about the connection to the base member and the ends of the rails move toward and away from one another in response to vertical adjustments of said clamping means along said divergent stanchions.

3. In a mechanical instruction device including curvilinear guide rail means having overlapped ends, said means defining the path of a prescribed golf swing and having a pair of spaced rails extending along only the portion of the path adapted to form the backswing portion of the swing for guiding a golf club during said golf swing, the combination of a base having front, rear and end members rigidly secured together, end stanchions pivotally mounted on the end members, and tie bar means releasably connecting the stanchions to hold the stanchions in upright divergent position, said stanchions folding about the end members into overlying relation with said base when said tie bar is disconnected from said stanchions, means for releasably mounting the lowest portion of the curvilinear guide means to said front member, means for clamping the overlapped portions of the rail means in predetermined adjusted positions, clamping means adapted to releasably clamp and support the upper portions of said guide rail means adjacent said stanchions, means mounting said clamping means on the upper ends of said stanchions for adjustment vertically and horizontally, said clamping means being adjustable vertically of the stanchions to accommodate players of various heights and being adjusted horizontally to support

the upper portion of said guide rail means as the guide rail means pivots about the connection to the base member and the ends of the rails move toward and away from one another in response to vertical adjustments of said clamping means along said divergent stanchions, and locating means on the clamping means on the stanchions and the means clamping the ends of the rail means to insure proper location of said rail means and to prevent torsion in the rail means to vary the spacing of said pair of spaced rails.

4. In a mechanical instruction device including curvilinear guide rail means having overlapped ends, said means defining the path of a prescribed golf swing and having a pair of spaced rails extending along only the portion of the path adapted to form the backswing portion of the swing for guiding a golf club during said golf swing and having a stop pad at the end of said pair of rails, the combination of a base having front, rear and end members rigidly secured together, end stanchions pivotally mounted on the end members, and tie bar means releasably connecting the stanchions to hold the stanchions in upright divergent position, said stanchions folding about the end members into overlying relation with said base when said tie bar is disconnected from said stanchions, means for releasably mounting the lowest portion of the curvilinear guide means to said front member, clamping means adapted to releasably clamp and support the upper portions of said guide rail means adjacent said stanchions, and means mounting said clamping means on the upper ends of said stanchions for adjustment vertically and horizontally, said clamping means being adjustable vertically of the stanchions to accommodate players of various heights and being adjusted horizontally to support the upper portion of said guide rail means as the guide rail means pivots about the connection to the base member and the ends of the rails move toward and away from one another and properly locate the stop pad for the end of the backswing in response to vertical adjustments of said clamping means along said divergent stanchions.

5. In a mechanical instruction device including curvilinear guide rail means for a golf club conforming to the path of a prescribed golf swing for guiding the golf club during said golf swing, the combination of a base having front, rear and end members rigidly secured together, end stanchions mounted on the end members, said front member being adapted to be aligned with the direction of play, means for mounting the lowest portion of the curvilinear guide means to said front member and including mounting members, the forward member in the direction of play being longer, clamping means adapted to clamp and support the upper portions of said guide rail means adjacent said stanchions with the plane of the guide rail means diverging from the vertical plane including the front member in the direction of play whereby the tendency for the player to pull the club around the body is reduced.

6. In a mechanical instruction device including curvilinear guide rail means for guiding a golf club during a complete swing and having the portion forming the backswing only of said golf swing comprising a pair of spaced rails having a pair of extension rails pivotally mounted thereto for swinging outwardly therefrom, the improvement wherein one of said extension rails is provided with a hinge member having a projection and is pivoted to a latch housing by a removable pivot pin with the projection in position to be engaged by a latch means in the latch housing and the other of said extension rails having a pin and slot connection with the other spaced rail to permit movement of the extension about the pivot when the latch is released, said slot having an enlargement at one end to permit the pin to be removed therefrom when the removable pivot pin is removed and the extension is withdrawn, and a trigger carried by the latch housing and extending into a position between said spaced rails, said trigger being shaped to permit a club to be moved in a backswing direction and to release the latch when the club has moved out of the extension during a downswing.

References Cited in the file of this patent

UNITED STATES PATENTS

1,567,530	Macnaughton et al.	Dec. 29, 1925
2,653,025	Zega	Sept. 22, 1953
2,756,056	Zega	July 24, 1956