United States Patent

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[54] **GOLF PRACTICE DEVICE**
8 Claims, 4 Drawing Figs.

[52] **U.S. Cl.** ..... **273/195 B,** 273/195 A
[51] **Int. Cl.** **A63b 69/36**
[50] **Field of Search** 273/195, 196, 197, 198, 176, 35

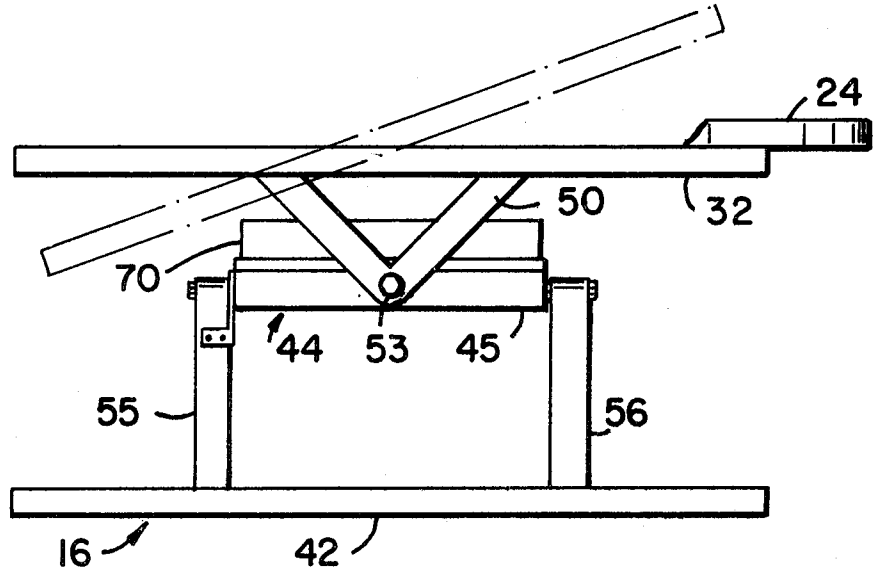
[56] **References Cited**

UNITED STATES PATENTS

2,879,996	3/1959	Lederer	273/195 B X
2,937,875	5/1960	Mason et al.	273/195 B

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ABSTRACT: A golf practice device for simulating uneven lies including a practice platform which is mounted over a base platform for limited universal movement with respect to such base platform. The two platforms are separated by an intermediate member having the shape of a rectangle. A pair of V-shaped connectors extend between and are secured to one pair of opposing sides of the intermediate member and the upper practice platform. A pair of inverted V-shaped connectors extend between and are secured to the other pair of opposing sides of the intermediate member and the base platform. Pivot axes are provided at the junctures of the legs of the V-shaped and inverted V-shaped connectors. Electrical jacks are provided to quickly and easily adjust the tilt of the practice platform to simulate uphill, downhill or sidehill lies. The electrical jacks may be operated by a remote control panel which is connected to electrical circuitry located in a box on the intermediate member.



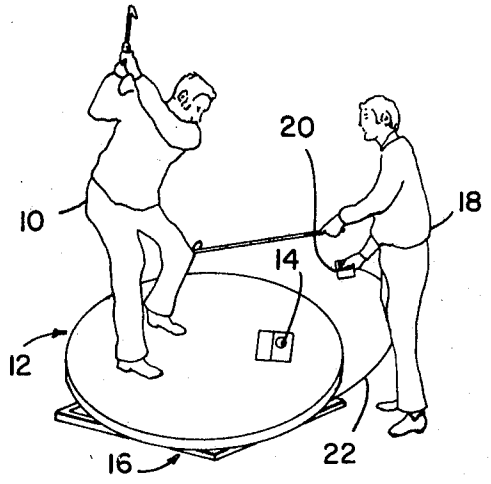


FIG_1

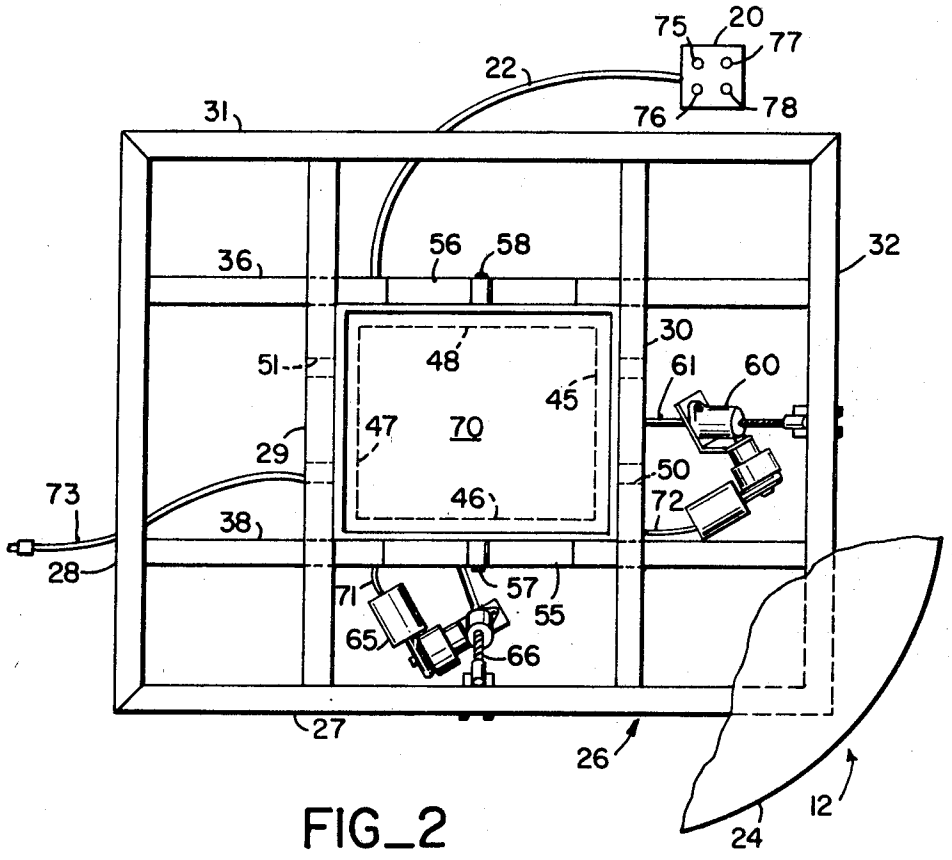


FIG_2

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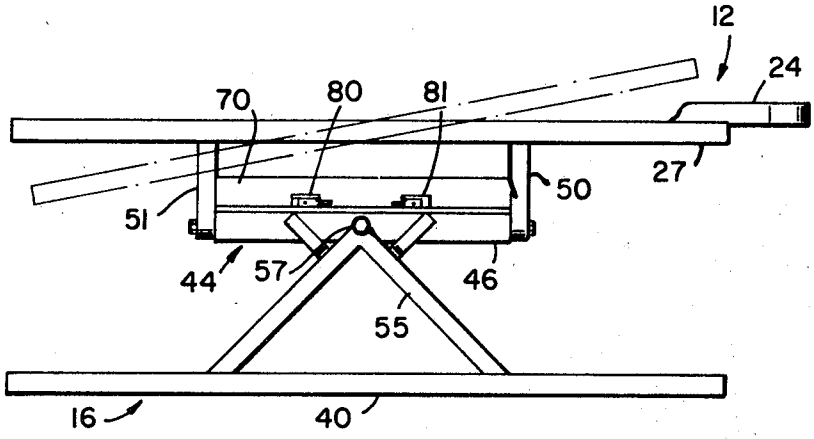


FIG_3

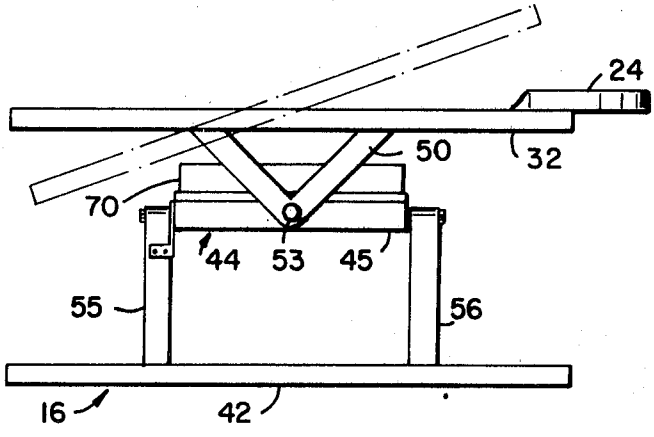


FIG_4

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GOLF PRACTICE DEVICE

BACKGROUND OF THE INVENTION

The present invention relates to a golf practice device useful in providing simulated uphill, downhill and sidehill lies for a golfer and more particularly the invention relates to a golf practice device which includes a practice platform and a base platform and means connecting these platforms together and allowing limited universal movement of the practice platform while retaining stability of the practice platform at all positions of such limited universal movement.

As is well known to every golfer uneven terrain can make even a relatively simple golf shot a good deal more difficult. Depending on the slope of the ground, uphill, downhill or sidehill lies often present especially difficult problems for a player. Golf shots from such lies are not easily practiced because of the relative lack of such terrain in practice areas or in driving ranges. Furthermore because of the lack of easily accessible areas where shots of this type can be practiced it is even less likely that the average golfer can get professional help in setting up for and playing shots from these more difficult lies.

Heretofore various attempts have been made to provide practice devices which simulate uneven lies from which a golfer may practice hitting shots. One such device is described in U.S. Pat. No. 3,430,964. As there shown a platform is provided with two longitudinally adjustable legs and one non adjustable leg. Uneven lies are simulated on the platform by manually extending or retracting the adjustable legs to tilt the platform to the desired angle. This device is somewhat limited however in that it is not easily adjusted while the golfer is standing on the platform. Further there are limitations to the positions through which the platform can be tilted and in any event the platform will not be overly stable at all possible tilted positions.

Two other patents which have dealt with the problem of providing simulated uneven lies for golf practice are U.S. Pat. Nos. 2,879,996 and 2,937,875. U.S. Pat. NO. 2,879,996 shows separate platforms for the player and for the ball. Both of these platforms are mounted on extendable tubes. The tubes are connected to the bottom center of the platform by means of a ball and socket joint. Thus by extending or retracting the tubes and adjusting the ball and socket joints the angle and position of the platforms are changed to simulate uneven lies. Again however this device does not lend itself to adjustment while the golfer is on the platform. Further, problems of stability of the platforms may arise under operating conditions. U.S. Pat. No. 2,937,875 disclosed a polygonal platform which may be hingedly connected to a base at any one of the edges of the polygonal platform. An elevating device located under the center of the polygonal platform raises it and tilts it. As is evident problems may arise when utilizing this device due to the necessity of connecting and disconnecting the polygonal platform from the base platform. Further not all possible ground angles may be simulated with such a device.

As is evident there is still need for a stable, easily adjustable golf practice device which will allow a golfer to practice hitting shots from a wide range of uneven lies. The device must be stable when in position so that it is not affected by the forces created as the golfer plays a shot. Furthermore the device must be easily and quickly tiltable to a new position while the golfer is standing on the practice platform. The present invention is directed to fulfilling these needs.

SUMMARY OF THE INVENTION

The present invention provides a golf practice device for use in simulating all types of uneven lies from which a golfer may hit practice shots. A practice platform is provided with a surface for holding both the player and a ball. The practice platform is elevated above ground level a sufficient distance to allow for tilting it to simulate any slope of ground desired. A base platform is positioned below the practice platform and is adapted to sit on the ground or other surface and to provide a

stable base for the device. An intermediate member is adapted to be positioned in spaced-apart relationship between the two platforms. Means are provided to pivotally connect a pair of opposing sides of the intermediate member to the base platform. Means are also provided to pivotally connect a second pair of opposing sides of the intermediate member to the practice platform. When connected together in this manner the practice platform may be moved or tilted in limited universal movement with respect to the base platform. Motive means are connected to the base member and the practice platform to tilt the practice platform to any desired angle. The practice platform is locked at such an angle and practice shots may be hit by the player from a stable tilted platform. When it is desired to change the lie from an uphill lie to a downhill lie for example the motive means are activated to tilt the practice platform to a new position. In this manner a variety of lies may be easily and quickly simulated for practice. The apparatus of the present invention because of its stability and mode of assembly can be activated while the player is on the platform and the change in angle of the platform is readily and quickly accomplished. The motive means may be electrified and controlled by a central control panel thereby presenting an attractive teaching platform for a teaching professional who may readily move his student to a variety of positions to simulate all types of gold terrain.

BRIEF DESCRIPTION OF THE INVENTION

The present invention is directed to a golf practice device and provides an elevated platform of adequate size for hitting practice shots. A base platform of approximately the same size as the practice platform is located in spaced apart relationship below the practice platform. An intermediate member having at least a pair of opposing struts or sides is spaced apart between the practice platform and the base platform. Means, such as upper supporting arms, are provided to to pivotally connect two opposing struts of the intermediate member to the practice platform. Means such as lower supporting arms, pivotally connect the other set of opposing struts of the intermediate member in spaced-apart relationship with two opposing struts of the base platform. When so connected the apparatus of the present invention is adapted to move the practice platform in limited universal movement. The degree of such movement is limited by the geometry of the connecting members and platforms.

Motive means are connected to the apparatus to move the practice platform to a desired position. A pair of motorized jacks, for example are connected between the base platform and the practice platform on two consecutive sides. The motorized jacks have shafts which extend or retract when the motor is activated and which remain in position when the motor is deactivated. Thus by suitable activation of the motor the practice platform is moved to a suitable angle. The motors are deactivated and the shafts of the jacks serve as locking means to hold the platform in position so that practice shots may be hit therefrom.

The facilitate operation of the apparatus of the present invention the jacks are preferably electrically driven. The electrical circuitry is placed on the intermediate member under the practice platform. The circuitry is directed to a central control panel for ease in control of operation. Limit or cutoff switches may be provided on the practice platform and the intermediate member to prevent tilting of the platform beyond a desired maximum angle.

OBJECTS OF THE INVENTION

The principle object of the present invention is to provide a golf practice platform which is universally tiltable through limited angles while the golfer is standing on the platform and which is stable and solid in such tilted position so that golf shots may be readily hit therefrom.

Further objects and advantages of the present invention will become apparent from the following detailed description read

in light of the accompanying drawings which are made a part of this specification.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view and illustrates the preferred embodiment of apparatus assembled in accordance with the present invention in use;

FIG. 2 is a top view, with portions removed for clarity of presentation, of the preferred embodiment of apparatus of the present invention;

FIG. 3 is a front elevation view, with portions removed for clarity of presentation, of the preferred embodiment of the present invention;

FIG. 4 is a side elevation, with portions removed for clarity of presentation, of the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Refer now to FIG. 1 where the preferred embodiment of apparatus assembled in accordance with the present invention is shown. A golfer **10** is seen hitting practice shots from the practice platform indicated generally by the numeral **12** of the preferred form of apparatus. The practice platform **12** is tilted to simulate an uphill lie. A ball **14** is positioned on the hitting area for use by the golfer. As is evident a good deal of force is exerted by the golfer as he makes his stroke. Much weight shifting and pivoting is thus involved resulting in stresses on the apparatus. It is therefore extremely important that the practice platform **12** be held in a stable manner at the position selected for practice. The practice platform **12** is supported on the ground or other surface therefore by a base platform **16** which is of a construction to provide a stable broad base for the practice platform. It is seen that the base platform **16** and the practice platform extend below the area where the ball **14** is hit and the golfer **10** stands on the practice platform. This insures that the practice platform will remain stable during the swing of the player.

A teaching professional **18** is illustrated near the golfer **10**. The pro **18** is holding a control panel **20** which is connected by suitable circuitry to the motive means and by manipulating the control buttons the pro may cause the practice platform to be tilted to any selected position to simulate various lies found on a golf course. Movement between selected positions is made rapidly while the golfer is on the practice platform **12**. Thus practice of and advice on playing uneven lies may be readily obtained.

The preferred embodiment of apparatus of the present invention is shown in greater detail in FIGS. **2—4**. FIG. **2** is a plan view and FIGS. **3** and **4** are elevation views all with portions removed for clarity of presentation. The practice platform indicated generally by the numeral **12** comprises a circular practice base **24** which is connected to a rectangular frame **26**. The frame **26** is of boxbeam construction and is made up of a plurality of suitable struts **27**, **28**, **29**, **30**, **31** and **32**. The boxbeam construction gives rigidity to the frame and insures a solid mount for the practice base **24**. The practice base **24** is secured by bolts or other suitable means to the frame **26** to form the practice platform **12**.

The base platform indicated generally by the numeral **16** also comprises a plurality of struts arranged in boxbeam fashion. The base platform **16** is approximately the same size as the practice frame **26**. The longitudinal struts **36** and **38** of the base platform preferably are positioned 90° out of phase with the longitudinal struts **29** and **30** of the practice platform to add over all stability to the apparatus. The front strut **40** has a corresponding back strut (not shown) and the right side strut **42** also has a corresponding left side strut (not shown).

An intermediate member indicated generally by **44** is spaced between and vertically spaced apart from practice platform **12** and base platform **16**. The intermediate member is formed in rectangular shape by four struts **45–48**. Two of the struts **45** and **46** are shown in the elevation views. Each of these struts **45** and **46** has a corresponding strut **47** and **48** forming the opposing side of the intermediate member **44**. Thus the intermediate member **44** has two sets of opposing sides or struts i.e. **45–47** and **46–48**. The intermediate member **44** is of boxlike construction and is centrally located with respect to platform **12** and **16**. To give good support for these platforms **12** and **16** the dimensions of the intermediate member should not be less than one-third the dimensions of the platforms. That is to say for example strut **45** should not be shorter than one-third the length of strut **32**. Similarly strut **46** should be at least one-third the length of strut **27**.

The practice platform **12** is pivotally connected to the intermediate member **44** to permit the platform **12** to be tilted with respect to the member **44**. For example suitable upper supporting arms **50** and **51** are fixedly connected to frame **26** and pivotally connected to opposing sides **45** and **47** of intermediate member **44**. The pivoted connection is made by suitable pins such as pin **53** extending through the supporting arms. The supporting arms preferably are angle braces to give added stability to the apparatus.

The intermediate member **44** is pivotally connected to the base platform **16** to permit the intermediate member **44** to be tilted with respect to the base platform **16**. Tilting the intermediate member **44** results in tilting the practice platform **12** with respect to the base platform **16**. Suitable lower supporting arms **55** and **56** are fixedly connected to base platform **16** and pivotally connected to the other set of opposing sides **46**, **48** of intermediate member **44**. The pivoted connection is made by suitable pins **57** and **58** extending through the supporting arms. Since the practice platform **12** is connected to the base **16** by what is in effect a universal joint type of connection the practice platform is movable in limited universal fashion. The amount of such movement possible depends on the geometry of the various elements. It is contemplated that sufficient universal movement will be incorporated into the present apparatus so that all types of sidehill, uphill and downhill lies may be readily attainable. The boxbeam construction of the upper practice frame and the lower base frame cooperating with the sturdy intermediate member gives the apparatus of the present invention stability when in a selected practice position. Furthermore because of this advantageous construction the practice platform is readily and easily movable with the player on board to a new selected practice position.

In accordance with the invention motive means are provided to move the practice platform **12** in limited universal movement. Thus first motive means **60** is connected between base platform **16** and the practice platform **12**. More specifically for example motive means **60** is an electric motor having an extendable and retractable shaft **61** which is extended or retracted to tilt the practice platform to a desired position. Second motive means **65** are connected to an adjoining side of base platform **16** from the side where the first motive means **60** are connected. The second motive means **65** also comprises an electric motor having an extendable and retractable jackscrew **66** which is connected to practice frame **26**. As the screw **66** is extended or retracted the practice platform is accordingly tilted. The electric motors **60**, **65** and the thread shafts **61**, **65** also cooperate to lock the practice in selected position so that practice shot may be hit therefrom. The locking function occurs automatically when the motors are stopped. Thus the threaded shafts remain at a fixed position when the motors are not being driven. When power is applied to the motors the shafts are immediately activated to realign the practice platform to a newly desired position.

A control panel **20** is provided for ease in controlling the apparatus of the present invention. Suitable circuitry **22** leads from the control panel **20** to a centrally located control box **70** located immediately above intermediate member **44**. The control box **70** is positioned below practice frame **26**. Therefore when practice base **24** is connected to the frame **26** to make the practice platform **12** the control box **70** is covered and

thus protected from the whether. Suitable electric leads **71** and **72** extend from the motors **60, 65** to the control box **70**. Power is supplied to the control box **70** by conductor **73**. The wiring in the control box is conventional and provides for driving the motors both in forward and reverse in response to pressure on a selected button **75, 76, 77, 78** of the control panel **20**. When the button is released the motor stops and cooperates with the jack to lock the practice platform in position for practice.

If desired suitable limit or cutoff switches may be connected to the device to override the control button to automatically stop the motors when a selected degree of tilt is accomplished. Ordinarily this is a safety feature to prevent too much tilting of the platform. For example suitable cutoff switches **80, 81** are connected to intermediate member **44** and are tilted therewith. Tabs **82** and **83** are fixedly connected to supporting arm **55** and extend toward the switches **80, 81**. When the degree of tilt is such that the tabs **82, 83** contact the switches **80, 81**, power is cut off and the motor stops locking the platform in position.

The surface of the practice platform is preferably covered with artificial turf. For best results the turf is of two types. Thus the turf under the golfer is of a type to withstand golf spikes. The turf under the ball is of a type to simulate turf from which shots are hit. The preferred turf for the spikes has a short nap which is bound by a tightly woven backing thread encapsulated in a rubber like backing which provides resilience. Other mats may be utilized below this turf to give it depth. The preferred turf for under the ball has long dense blades of artificial grass with definite grain in one direction. This turf may come in small sections and can be oriented to hold a ball against the grain in any tilted position of the practice platform.

SUMMARY OF ADVANTAGES OF THE INVENTION

The present invention provides a tiltable platform to simulate uneven lies for use in golf practice. A stable platform is provided for the golfer to hit practice shots. The construction os the present apparatus is such that the device is stable and free from undesirable wobble. In addition the apparatus of the present invention provides an easily tiltable platform which is readily tilted when the golfer is on the platform. The control system of the apparatus insures quick and easy change of tilt so that many different lies may be practiced.

Other advantages of the present invention will be obvious from the above description. Although only selected embodiments of the invention have been described in detail the invention is not limited to only those embodiments but rather by the scope of the appended claims.

We claim:

1. A golf practice device comprising a base platform, a practice platform, an intermediate member, means pivotally connecting opposing sides of said intermediate member in spaced-apart relationship with said practice platform, means pivotally connecting the other opposing sides of said intermediate member in spaced-apart relationship with said base platform, motive means for universally tilting said practice platform with respect to said base platform and locking means for maintaining said practice platform at a selected position with respect to said base platform.

2. The apparatus of claim **1** further characterized in that the motive means are electrical jacks connected on adjoining sides between the base platform and the said practice platform.

3. The apparatus of claim **2** further characterized by control panel means removed from said device for remotely controlling tilting of said practice platform while a golfer is positioned on said platform.

4. A golf practice device comprising a base platform, a practice platform, an intermediate member, upper supporting arm means pivotally connecting opposing sides of said intermediate member in spaced-apart relationship with said practice platform, lower supporting arm means pivotally connecting the other opposing sides of said intermediate member in spaced apart relationship with said base platform, first motive means for pivoting said practice platform with respect to said base platform first locking means for maintaining said practice platform at a selected position with respect to said base platform second motive means for pivoting said practice platform with respect to said base platform and second locking means for maintaining said practice platform at a selected position with regard to said base platform.

5. The apparatus of claim **4** further characterized in that the first and second motive means are electrical jacks connected on adjoining sides between the base member and the said practice platform.

6. The apparatus of claim **5** further characterized in that the electrical circuitry for controlling said electrical jacks is located in a control box on said intermediate member and said circuitry is controlled by a remote control panel.

7. The apparatus of claim **6** further characterized in that the top of the practice platform is covered with artificial turf.

8. The apparatus of claim **4** further characterized in that the practice platform and the base platform are of box beam construction and extend under the standing area of the golfer and the hitting area of the ball.

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