Jan. 31, 1967 H. J. KAISER 3,301,561

GOLF PUTTING TRAINING DEVICE

Filed July 6, 1964 2 Sheets-Sheet 1

FIG. 2

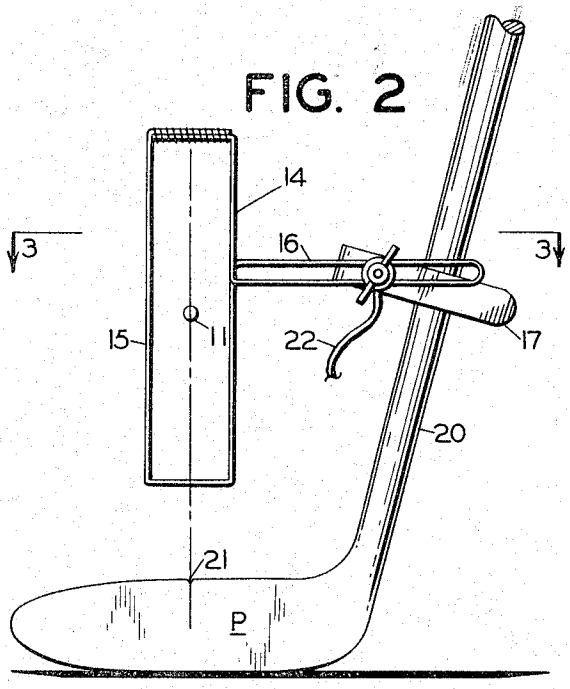


FIG. 1

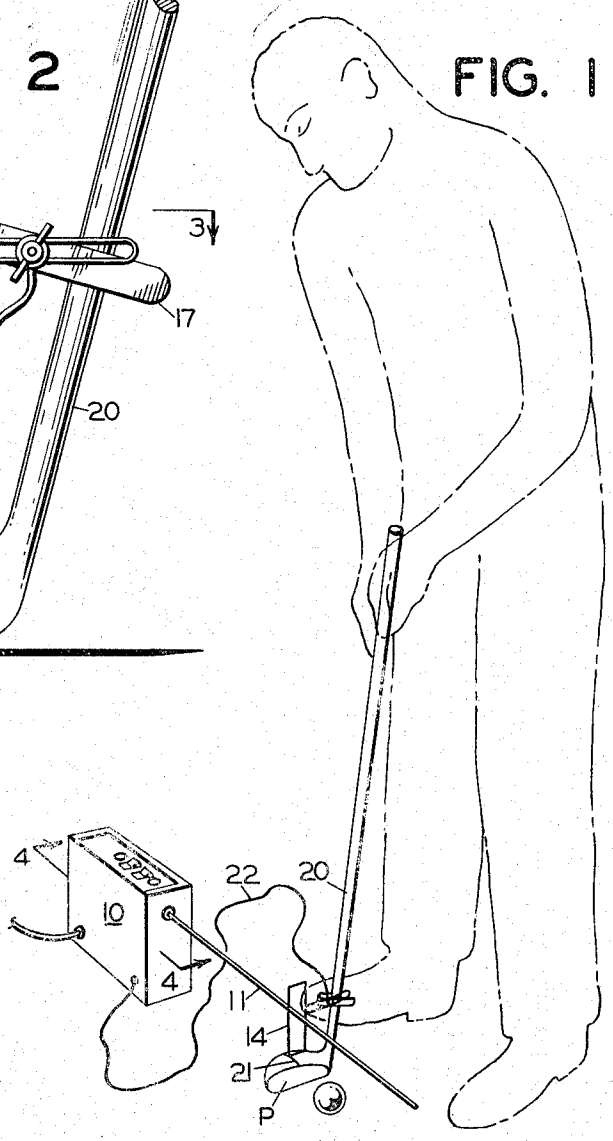
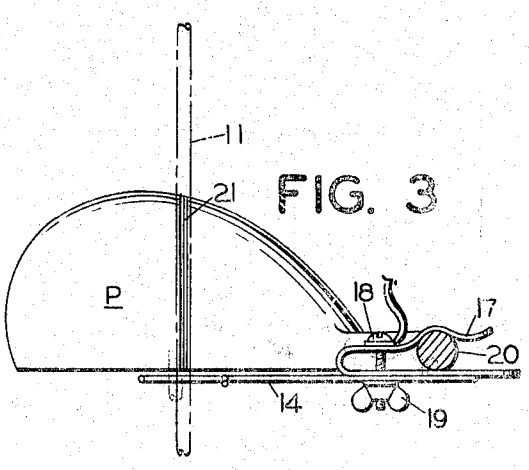


FIG. 3



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FIG. 4

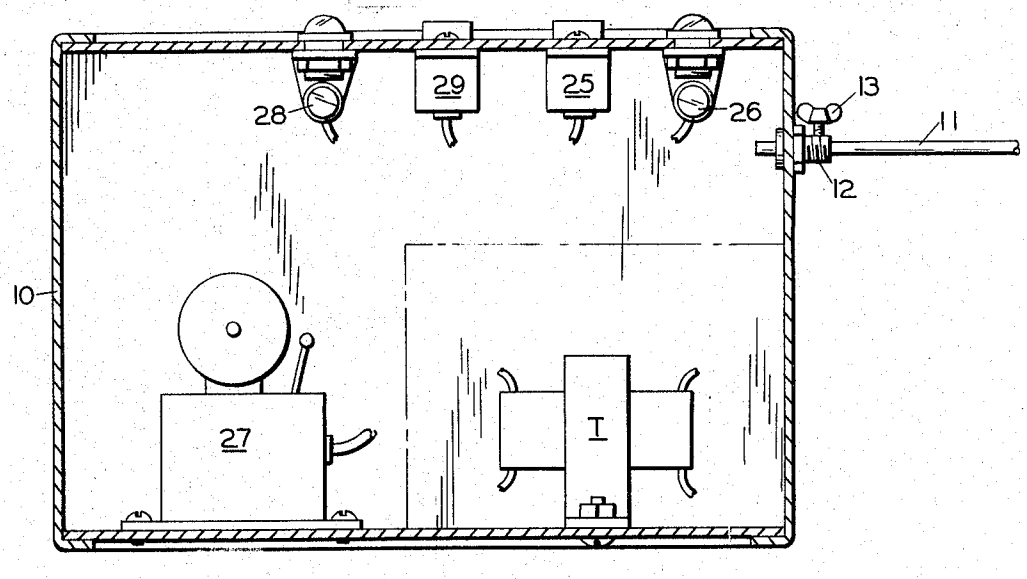


FIG. 5

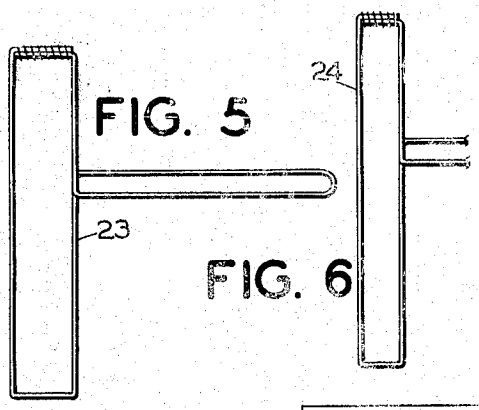


FIG. 6

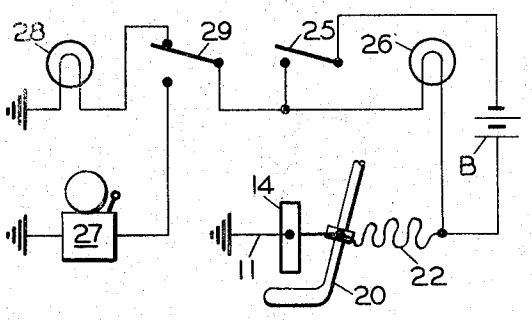


FIG. 8

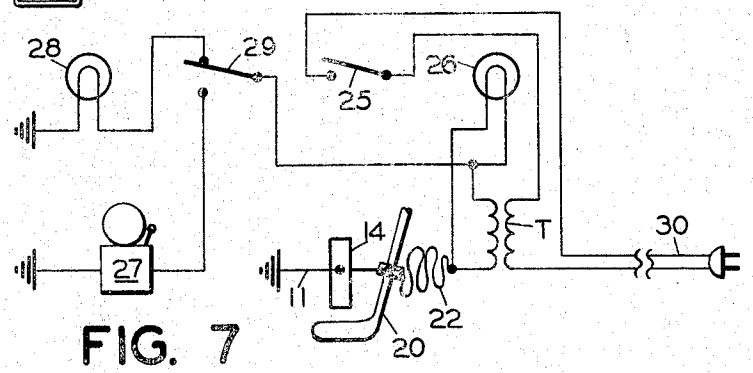


FIG. 7

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GOLF PUTTING TRAINING DEVICE

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6 Claims. (Cl. 273—186)

This invention relates in general to devices designed to serve as practice training aids in developing and improving the strokes required in the playing of the game of golf, and, more specifically, relates to means for developing more efficiency in putting.

An object of the invention is to provide a novel, simple and practical guide assembly which may be used indoors as well as outdoors for practicing putting strokes.

A related object is to provide a compact putting training device which is particularly adapted for, and capable of being quickly and conveniently set up for use in practicing putting strokes in a small room or office.

There are two familiar difficulties encountered in developing skill in putting. The first is of course the problem of moving the putter in a perfectly straight line towards the hole into which the golf ball is being directed and the avoidance of deviation from such straight line direction by having the putter swing slightly to one side or the other. The other is the problem of preventing the tendency to swing the putter in an arc in a vertical plane, which fault is apt to cause the putter to strike the ball with a sort of chopping action which then interferes with the accurate guiding and directing of the ball. A special object of the present invention accordingly is to provide a training guide assembly which will immediately inform the person using the device when his putting stroke is faulty in either of these respects.

A further object of this invention is to provide a putting training guide assembly which can be adjusted to conform to the developed efficiency of the person using tthe guide, so that, as his putting improves, the margin of error allowed him by the guide will decrease and thus enable him to appraise his skill more critically and accurately.

A still further object of the invention is to provide a training guide assembly which will be simple and compact and will present no particular manufacturing or maintenance problem and consequently a putting training assembly guide capable of meeting a market demand for a device of this nature among the golfing public.

The manner in which these objects are attained, the manner in which the putting training guide assembly of the present invention is used, and the construction and operation of the same will be readily understood from the following brief description with reference to the accompanying drawings.

In the drawings:

FIG. 1 is a perspective view of the guide assembly set up in use and illustrating the manner in which it is employed;

FIG. 2 is a fragmentary elevation, drawn to a larger scale, showing the lower portion or head of the putter together with that portion of the assembly which is mounted on the putter shaft;

FIG. 3 is a sectional plan taken on the line 3—3 of FIG. 2;

FIG. 4 is a sectional elevation of the housing member of the assembly taken on the line indicated at 4—4 of FIG. 1 but drawn to a much larger scale;

FIGS. 5 and 6 are elevations of substitute and supplemental error-detecting frame guides adapted to be attached to the putter shank successively as the user's putting skill improves;

FIG. 7 is a wiring diagram of the assembly when the assembly is so arranged as to be connected up to an ordinary electric outlet; and

FIG. 8 is a corresponding modified wiring diagram of the assembly arranged for battery operation.

Referring first to FIG. 1, the assembly includes a housing 10, adapted to be set on the floor or on the ground wherever the putting practice is to take place. This housing contains electrical elements, switches, and indicating signal means as later explained. A guide rod 11 has one end removably secured in an end wall of the housing by suitable means such for example as the nipple 12 and set screw 13 shown in FIG. 4. The arrangement is such that the guide rod 11 will extend along substantially parallel to the plane of the bottom of the housing 10 and thus substantially parallel to the floor or ground on which the housing 10 is set. A length of two to two one-half feet is sufficient for this guide rod 11. The rod is made of steel, or any other suitable and electrically conductive metal, and, through the intermediary of the housing wall, is connected to the common electrical ground for the electrical circuitry located within the housing as later described and which circuitry includes electric current transmitting means comprising either a simple transformer or battery.

An error-detecting frame guide 14 (FIGS. 1, 2, and 3) is attached to the shaft 20 of the putter P. This frame guide 14 is made of stiff wire and is also of electrically conductive metal, and, as shown clearly in FIG. 2, is so shaped as to form a hollow rectangle 15 with a mounting loop 16 extending out from one of the longer sides substantially at right angles thereto. The mounting loop 16 for this frame guide 14 is adapted to be removably and adjustably secured on the shaft 20 of the putter P by suitable means such as the spring clamp 17 (shown best in FIG. 3) which is provided with a clamping bolt 18 and a suitable clamping nut 19.

When the assembly is used the mounting loop 16, and therewith the frame guide 14, is so positioned on the putter shaft 20, through the intermediary of the spring clamp 17 and clamping nut 18, that the long sides of the rectangle of the frame 14 will be substantially vertical when the putter shaft 20 is held in normal position by the person using the putter and with the putter head in position for engaging the golf ball. Also the frame guide 14 is so positioned with respect to the putter shaft and putter head that the vertical center line of the hollow rectangle of the frame will be in vertical alignment with the top center line across the putter head, or with the guide line or groove which is generally carried by a putter head, such groove or guide line being indicated at 21 in FIGS. 2 and 3. Furthermore the height at which the frame guide is positioned above the head of the putter, and thus the height of the frame above the floor or ground when the putter is held in normal putting position should be such that when the frame guide is moved along over the stationary guide rod 11 the guide rod will be positioned in the frame rectangle approximately half-way between the top and bottom sides of the rectangle as illustrated in FIG. 2. Thus, when the frame guide 14 is set in proper position on the putter shaft and the putter and frame guide are moved towards the housing 10 into the practice starting position illustrated in FIG. 1, the frame guide will extend around the guide rod 11 but will be spaced from it on all sides, and the head of the putter P, the putter shaft 20, the frame guide 14 and the guide rod 11 will be in the relative position shown in FIGS. 1 and 2.

A fine flexible conductor wire 22, having suitable insulation covering has one end secured to the clamping bolt 18 and clamp 17 and is thereby connected electrically with the frame guide 14. The other end of this wire is secured to an electrical contact located in the housing 10, as shown later. The arrangement is such, as will presently be explained, that contact of the frame guide 14

with the guide rod **11** will close a circuit for actuating warning signal means carried by the housing **10**.

In using the assembly the person practicing putting strokes takes the position illustrated in FIG. 1, with the putter head behind the golf ball and with the guide rod **11** extending approximately through the center of the rectangle in the frame guide **14** as previously mentioned. Then as he makes each putting stroke he endeavors to keep the frame guide **14** from contacting the guide rod **11**. However, if he swings the putter to one side or the other, instead of moving the putter head in a straight line, the frame guide **14** will contact the guide rod **11** and the warning signal (described later) will be actuated. When, after further practicing, he succeeds in performing his putting strokes without having either of the sides of the frame guide touch the guide rod **11** he knows that he has corrected a tendency he previously had of swinging the putter slightly to one side or the other.

Assuming that the person using the assembly also has had a tendency to swing the putter too much in an arc in a vertical plane, thus causing the putter head to strike the ball with the objectionable chopping or lifting motion, then, as the result of such swinging the bottom and/or top ends of the frame guide **14** will come into contact with the guide rod **11** and the warning signal will be actuated and will inform him that he must continue his practicing until this fault also is overcome.

By changing guide frames and using guide frames in which the width of the open rectangle is reduced, then increased skill is required to prevent the guide frame from contacting the guide rod **11**. FIGS. 5 and 6 show two substitute guide frames **23** and **24**, which are similar to the frame guide **14** except that the width of the open rectangle in frame guide **23** is less than that of the first frame guide **14**, and the width of the open rectangle in frame guide **24** is still less.

By using a plurality of frame guides in this manner a beginner, or one whose putting is quite faulty at the beginning of the practice training, would start the training with the frame guide **14**, for example, as shown in FIG. 2. Then when he had reached the stage where he was able to avoid having the frame guide **14** contact the guide rod **11** in his putting strokes he would substitute the second frame guide **23** in place of the frame guide **14**. Later, as his skill became further developed, he would continue his practice training by using the still narrower frame guide **24**.

Referring now to FIGS. 4 and 7, the housing **10** contains the electrical circuitry for operation of the assembly, the housing providing the electrical ground for the circuitry. These figures illustrate the device as adapted to be connected up to an ordinary electric current outlet, and thus capable of being set up in any room or location where such an outlet is available. With such arrangement the circuitry in the housing **10** includes a suitable transformer T as the electric current transmitting means and the transformer and circuitry are connected up to a suitable electric outlet through the intermediary of the customary plug and conductor cord **30** shown in FIG. 7. The closing of the main switch **25** causes a light **26** to be lighted which indicates that the current for the device has been turned on.

As a matter of convenience the device is provided with two warning signal means, either of which may be used optionally, namely a bell or buzzer **27**, and a signal light **28**. In the event the user of the training device wishes to practice quietly in his room he can use the signal light **28** instead of the electric bell or buzzer **27**. The single pole double throw switch **29**, mounted in the top of the housing, enables this selection to be made. The guide **11**, by being connected to the housing **10**, is connected to the common electrical ground for the electrical circuitry in the housing. The guide frame **13**, carried on the putter, is connected by the wire **22** with the circuitry as indicated in FIG. 7. Consequently contact of the frame guide **14** with the guide rod **11** closes the circuit to the bell or buzzer **27**, or to the signal light **28**, as the case may be.

FIG. 8 shows the modified wiring employed when a suitable battery is installed in the housing and connected up with the circuitry, dispensing with the need for any outside electrical connection. The manner in which the battery B is connected up in the circuitry in place of the transformer and the manner in which the same signal means and the same switches function in the same manner as previously explained will be readily understood from the diagram in FIG. 8.

Various minor modifications could of course be made in the mounting of the various signal means in the housing and in other details of constructions without departing from the principle of the invention. The important feature in the invention is to have a frame guide carried by the shank or shaft of the putter, preferably being in the form of a narrow rectangle as shown, and capable of making electric contact with a stationary substantially horizontal guide rod **11** in the manner and for the purpose described.

I claim:

1. In a putting training guide assembly of the character described, a portable housing, an electrically conductible guide rod extending from one side of said housing, an open frame guide adapted to be attached to the shaft of a putter and capable of extending completely around the guide rod in spaced relationship thereto, means for adjustably and removably mounting said frame guide on the putter shaft, said frame guide formed of electrically conductible metal, electrical circuitry in said housing, electric current transmitting means and a master control switch for said circuitry, signal means carried by said housing, a circuit to said signal means included in said circuitry, said circuit so arranged that said guide rod will constitute a part of said circuit when mounted in place on said housing, and a conductor wire in said circuit extending from said housing and connected with said frame guide, said guide rod and said frame guide serving as terminals in said circuit, whereby contact between said frame guide and said guide rod when said circuitry is active and said master switch is closed will result in said signal means being actuated.

2. The combination set forth in claim **1** with said frame guide formed in the shape of a rectangle with an arm extending from one side of the rectangle for being adjustably and removably secured on the putter shaft.

3. In a putting training guide assembly of the character described, a portable housing, a demountable electrically conductible guide rod extending from one side of said housing, an open frame guide of electrically conductible metal adapted to be attached to the shaft of a putter and capable of extending completely around said guide rod in spaced relationship thereto, an arm on said frame guide, means for adjustably and removably mounting said arm and therewith said frame guide on the putter shaft, electrical circuitry in said housing, electric current transmitting means and a master control switch for said circuitry, means on said housing to indicate when said master control switch is in closed position when said circuitry is active, a signal light and a signal sounding element carried by said housing, a circuit to said signal light and said signal sounding element included in said circuitry, a single pole double throw switch in said circuit for said signal light and said signal sounding element, said circuit so arranged that said guide rod will constitute a part of said circuit when mounted in place on said housing, and a conductor wire in said circuit extending from said housing and connected with said frame guide, said guide rod and said frame guide serving as terminals in said circuit, whereby contact between said frame guide and said guide rod when said circuitry is active and said master switch is closed will close said circuit.

4. A putting training guide assembly including a portable housing, an electrically conductible guide rod extending from one side of said housing substantially parallel to the

plane of the base of said housing, an open frame guide of electrically conductible metal adapted to be attached to the shaft of a putter and capable of extending completely around said guide rod in spaced relationship thereto, an arm on said frame guide, means for adjustably and removably mounting said arm and therewith said frame guide on the putter shaft, electrical circuitry in said housing, a transformer in said circuitry adapted to be connected with an outside source of electricity, a master control switch for said circuitry, a light on said housing connected to said circuitry to indicate when said master control switch is in closed position when said circuitry is active, signal means carried by said housing, a circuit to said signal means included in said circuitry, said circuit so arranged that said guide rod in its mounted position on the housing constitutes a part of said circuit, and a conductor wire in said circuit extending from said housing and connected with said frame guide, said guide rod and said frame guide serving as terminals in said circuit, whereby contact between said frame guide and said guide rod when said circuitry is active and said master switch is closed will result in said signal means being actuated.

5. A putting training guide assembly comprising a portable housing, a demountable electrically conductible guide rod extending from one side of said housing in a substantially horizontal line when the assembly is set up, an open frame guide of electrically conductible metal adapted to be attached to the shaft of a putter and capable of extending completely around said guide rod in spaced relationship thereto, said frame guide being in the shape of a rectangle, an arm on said frame guide, means for adjustably and removably mounting said arm and therewith said frame guide on the putter shaft, electrical circuitry in said housing, a battery in said electrical circuitry, a master control switch for said circuitry, a light on said housing connected to said circuitry to indicate when said master control switch is in closed position, a signal light and a signal sounding element carried by said housing, a circuit to said signal light and said signal sounding element included in said circuitry, a single pole double throw switch for said last mentioned signal light and said last mentioned signal means in said circuit, said circuit so arranged that said guide rod will constitute part of said circuit when mounted in place on said housing, and a conductor wire in said circuit extending from said housing and

connected with said frame guide, said guide rod and said frame guide serving as terminals in said circuit, whereby contact between said frame guide and said guide rod when said circuitry is active and said master switch is closed will close said circuit.

6. A putting training guide assembly comprising a portable housing, an electrically conductible guide rod extending from one side of said housing in a substantially horizontal line when the assembly is set up, a plurality of electrically conductible open frame guides each adapted to be attached to the shaft of a putter and capable of extending completely around said guide rod in spaced relation thereto, said frame guides being similar in shape but differing in size, an arm on each frame guide, means for adjustably and removably securing each of said arms on the putter shaft, electrical circuitry in said housing, electric current transmitting means and a master control switch for said circuitry, signal means carried by said housing, a circuit to said signal means included in said circuitry, said circuit so arranged that said guide rod in its mounted position on the housing constitutes a part of said circuit, and a conductor wire in said circuit extending from said housing and connectible with one of said frame guides when such frame guide is mounted on the putter shaft, said guide rod and the frame guide when mounted on the putter shaft and connected with said conductor wire then serving as terminals in said circuit, whereby contact between said guide rod and the frame guide which is mounted on the putter shaft and connected with said conductor wire will result in said signal means being activated.

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G. J. MARLO, *Assistant Examiner.*