July 3, 1945. W. A. SMITH 2,379,663

GOLF PLAYING APPARATUS

Filed March 19, 1942 2 Sheets-Sheet 1

Fig. 1.

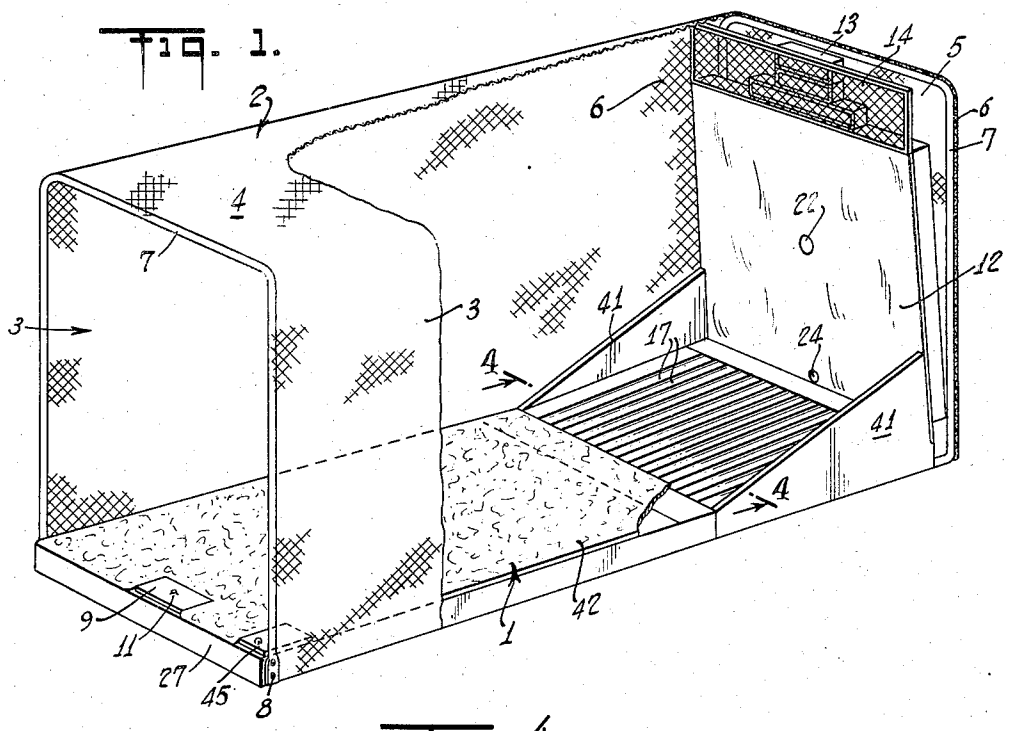


Fig. 4.

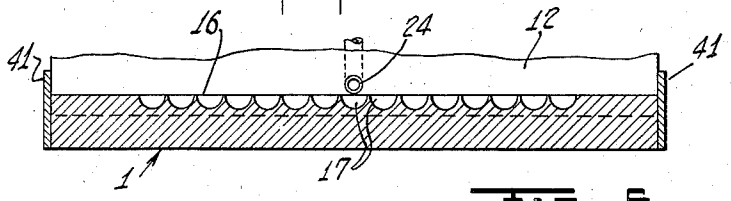


Fig. 5.

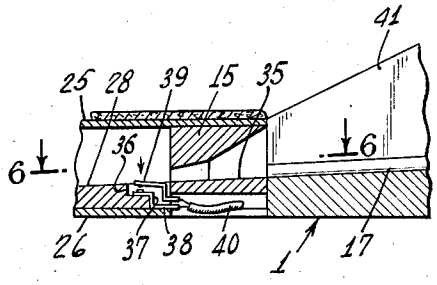
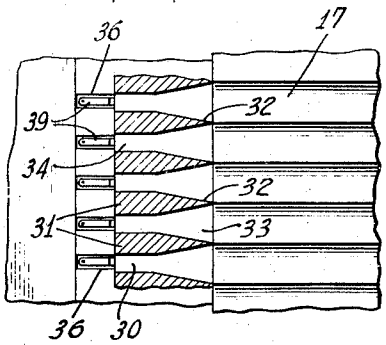


Fig. 6.



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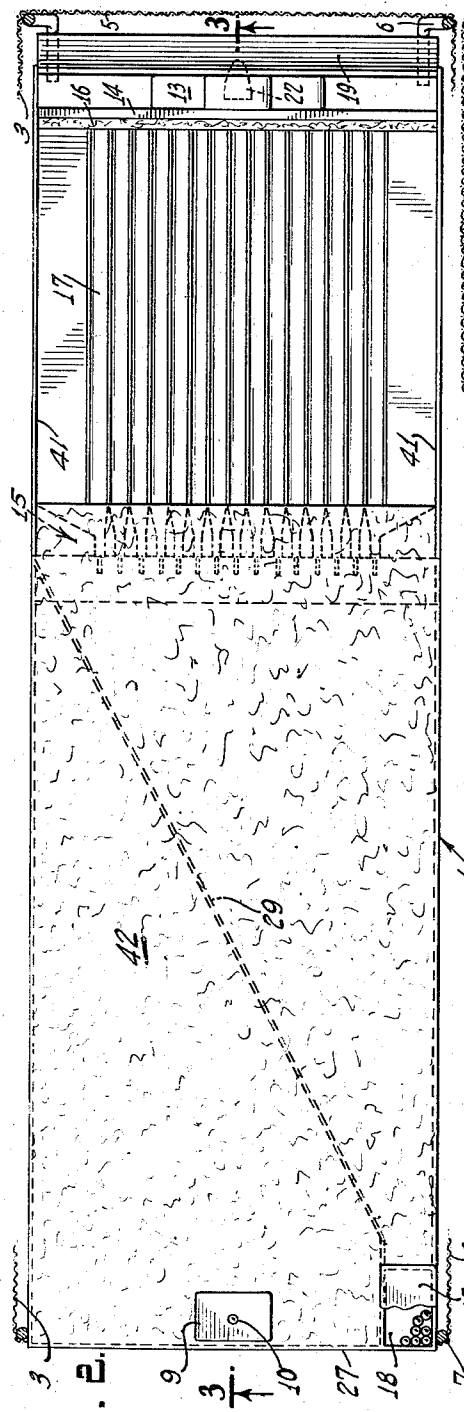


Fig. 2.

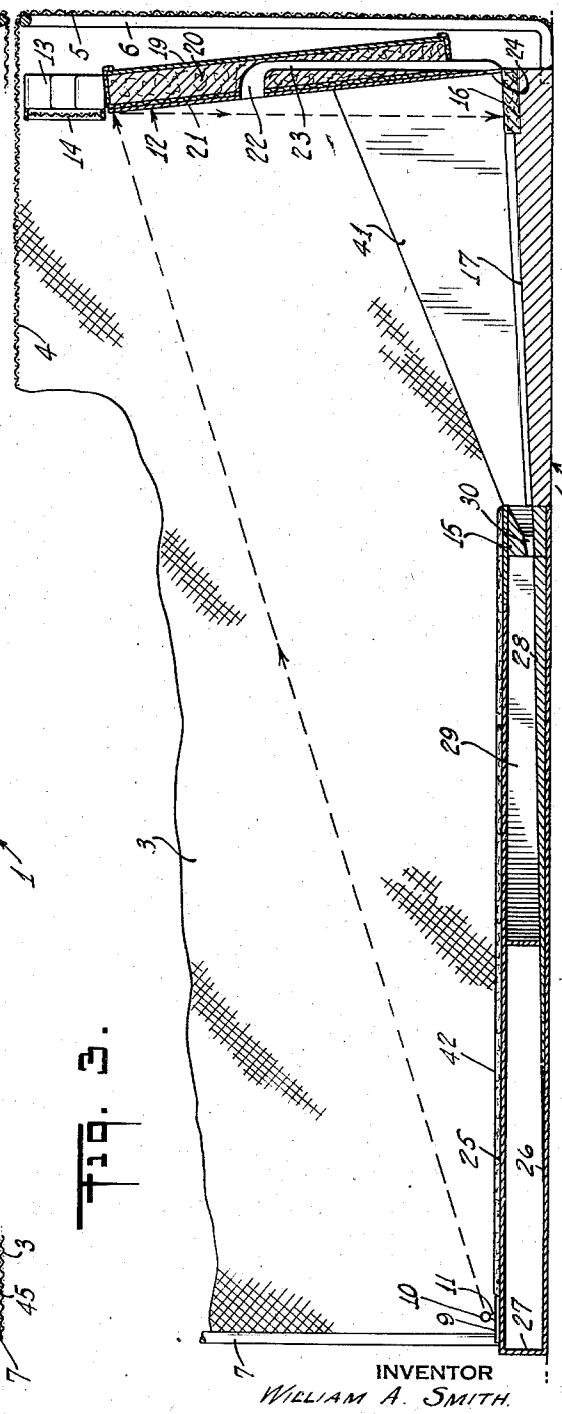


Fig. 3.

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GOLF PLAYING APPARATUS

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Application March 19, 1942, Serial No. 435,283

8 Claims. (Cl. 273—35)

The present invention relates to golf playing apparatus, and more particularly to apparatus which is intended for use both for instruction and for competitive amusement under conditions simulating the actual playing of golf.

The primary object of the invention is to provide an apparatus of the character referred to which is adapted to permit the player to employ the golfing strokes used in driving, approaching and putting with the same fullness and other characteristics of swing that would be employed in the performance of the respective strokes on the regular golf course.

Another object of the invention is to provide means for determining a stroke value for each shot made according to the accuracy of the shot with reference to a target, and to provide mechanism for recording such stroke value which is arranged in the apparatus so as to be operative with respect to a shot made by any of the types of strokes mentioned.

Still another object of the invention is to provide an apparatus of the character stated which is prefabricated for easy erection and dismantling, and which is in the form of a unit structure adapting it to be arranged in side by side relation to one or more like units.

The foregoing and other objects of the invention, and the novel features thereof, will be fully developed in the detailed description hereinafter set forth.

In carrying out the present invention, and in accordance with a preferred embodiment thereof, the apparatus comprises a generally rectangular base over which there is erected a cage having side walls and one end wall which rise from the edges of the base and a top wall which provides a ceiling at the desired height above the base. One end of the cage is unenclosed, and at the corresponding or outer end of the base a tee is provided from which a golf ball may be driven in the direction of a target arranged at the opposite closed end of the cage, the target being substantially coextensive with the cage in width and height. The base is a hollow structure, having a horizontal top wall or playing surface and a bottom wall spaced therefrom and presenting a top surface which is formed to incline downwardly toward the outer or tee end of the base. The inner end of the base terminates a predetermined distance in advance of the target to provide a space for the interposition of the mechanism for determining the stroke value of a shot. This mechanism includes three main elements, a cushion device onto which the ball drops after striking the target, an escapement unit arranged at the inner end of the base and comprising a transverse series of ball escapements or passages, and a ball guiding surface extending from the cushion to the escapement unit. The ball guiding surface is formed with a plurality of contiguous channels or runways corresponding in number to the escapements, and the surfaces of the cushion, channels and escapements over which the ball is adapted to pass are disposed at an inclination substantially in the plane of the inclined top surface of the bottom wall of the base. Thus a ball dropping from the target onto the cushion will roll therefrom by gravity into one or another of the channels and be guided thereby to the respective escapement to pass therethrough and roll down along the bottom wall of the base to a receptacle or well at the tee end of the apparatus. An electric contact element is arranged at the discharge end of each escapement so as to be actuated by a ball passing therethrough to close an electric circuit and thereby effect the recording of a predetermined stroke value on a scoreboard arranged above the target where it is conveniently within view for the player to see after completing a swing or stroke. It is proposed that the stroke value of a shot shall be determined by the relative positions of the escapements. To this end, the lowest stroke value will be recorded in response to the closing of the electric circuit by a ball discharging from one or any one of a group of the escapements located at the center of the escapement unit, while the stroke value recorded in response to the closing of the electric circuit by a ball discharging from one of the remaining escapements, or any one of a group thereof, will increase progressively as the escapements are farther from the center escapement on opposite sides thereof. The target is formed with a centrally located aperture which communicates by means of a conduit at the back of the target with the channel leading to the center escapement. Thus a "hole in one" may be considered to have been made by a ball entering the aperture in the target, and the passage of the ball through the center escapement will effect the recording of the lowest stroke value.

In the accompanying drawings, the invention has been shown merely by way of example and in preferred form and obviously many variations and modifications may be made therein which will still be comprised within its spirit. It is to be understood, therefore, that the invention is not limited to any specific form or embodiment except insofar as such limitations are specified in the appended claims.

Referring to the drawings:

Fig. 1 is a perspective view of the apparatus of the present invention, a portion of the cage being broken away to show the interior;

Fig. 2 is a top plan view of the apparatus, the cage ceiling being cut away and some of the parts below the top wall of the base being indicated by broken lines;

Fig. 3 is a vertical section, taken on the line 3—3 of Fig. 2 looking in the direction of the arrows, part of the cage being broken away;

Fig. 4 is a vertical section, taken on the line 4—4 of Fig. 1 looking in the direction of the arrows;

Fig. 5 is an enlarged vertical section, showing one of the escapements; and

Fig. 6 is a horizontal section of a portion of the apparatus, taken on the line 6—6 of Fig. 5 looking in the direction of the arrows.

According to the preferred embodiment of the invention shown in the drawings, the apparatus includes a base 1 which is of generally rectangular shape and covered by a cage 2 comprising side walls 3, a top or ceiling 4 and an end wall 5. The walls and ceiling of the cage may be formed of any suitable material such as wire mesh 6, which is supported on cross bows 7 having their opposite ends fastened to the side edges of the base 1, as at 8, and arching over the base at the desired ceiling height. At the outer end of the base 1 (the open end of the cage) a mat 9 or other suitable device is provided on which a golf ball 10 may be placed either directly or on a tee 11. A target 12 is arranged at the opposite or closed end of the cage, being disposed at a slight forward inclination, as shown in Figs. 1 and 3. The target 12 is substantially as wide as the cage, but in order to provide room for the mounting of a scoreboard 13 on its top edge it is of less height than the cage and the space between the top of the target and the cage is filled by a screen 14 adapted to act both to prevent the passage of a ball between the target and the cage and to protect the scoreboard. The inner end of the base 1 terminates a predetermined distance in advance of the target 12 to provide space for the interposition of an escapement unit 15 at the end of the base, a cushion 16 at the foot of the target, and a plurality of contiguous channels 17 located between the cushion 16 and the escapement unit 15, which elements present a continuous inclined surface down which a ball striking the target and dropping onto the cushion can roll in its return to a reservoir or well 18 at the outer end of the base.

The target 12 may be of any desired construction, its chief requisite being that it presents a striking surface which will prevent a rebound of the ball therefrom. Such characteristics may be embodied in the target in many ways and, as shown in Fig. 3, one expedient is to provide an open sided casing 19 filled with padding material 20 and having the open side thereof covered by a pliant material which presents the striking surface 21. As already stated, means is provided for scoring a "hole in one." For this purpose, the striking surface 21 of the target is formed with a centrally located aperture 22. The aperture 22 is surrounded by the funnel-shaped upper end of a conduit 23, which leads therefrom to an opening 24 in the surface 21 near the foot of the target 12 and just above the top surface of the cushion 16 (see Fig. 4). As will be explained hereinafter, a ball entering the aperture 22 will effect the recording of the lowest predetermined stroke value.

The base 1 is a hollow structure comprising horizontal top and bottom walls 25 and 26, respectively, enclosed at the sides and outer or tee end by vertical walls 27. At the inner end of the base, the escapement unit 15 is fitted between the walls 25 and 26 and extends continuously throughout the width of the base. The bottom wall 26 of the base 1 is partially covered by a filler 28 (see Figs. 2 and 3) which presents a top surface that inclines downwardly from the escapement unit 15 to the well 18. As indicated by the broken lines in Fig. 2, the filler 28 is of generally triangular shape, fanning out from the well 18 so that its opposite end is coextensive with the escapement unit 15. In other words, one of the side edges of the filler 28 is defined by one of the vertical side walls 27 and the other by a partition 29 which extends diagonally across the base between the well 18 and one end of the escapement unit 15, the partition 29 serving the two-fold purpose of guiding a ball in rolling down the inclined surface of the filler to the well and also of providing a support for the top wall 25 of the base.

The escapement unit 15 comprises a series of passages or escapements 30 arranged in side by side relation. The escapements 30 are defined each by a pair of spaced partitions 31, which are flared at one end 32 at the inner end of the escapement unit 15 to provide a relatively large ball receiving opening 33 of the same width as the corresponding channel 17. From the inner end of the unit 15 the escapement 30 becomes restricted to the extent that at the outer end thereof the ball discharge opening 34 is just large enough for the ball to pass freely therethrough. The bottom wall 35 of the escapement 30 is inclined so that the ball will roll thereover, and at the discharge end of the escapement the wall 35 is flush with the top surface of the filler 28 in the base 1.

Adjacent the outer end of the escapement unit 15 the filler 28 is formed with a series of recesses 36 cut into the edge thereof, each recess being centered with respect to an escapement 30. The recesses 36 are adapted to accommodate each an electric contact element 37, which may be of any suitable type. As shown, the contact element 37 comprises a lower fixed member 38 and an overlying movable member 39, each connected to a wire conductor 40 leading to the scoring mechanism. With this arrangement, a ball discharging from one of the escapements 30 strikes the movable member 39 of the respective contact element 37 and actuates it to close the electric circuit, whereupon the scoring mechanism is operated to record on the scoreboard 13 the stroke value assigned to that particular escapement.

It is pointed out at this time that the construction of the scoring mechanism per se forms no part of the present invention and may be of any form adapted to accomplish the desired result.

The channels 17 are provided in a surface of wood or other suitable material which completely fills the space between the inner end of the escapement unit 15 and the cushion 16. As already stated, the channels correspond in number with the escapements 30 and are arranged in contiguous side by side relation.

The cushion 16 extends from one side edge of the target to the other and is wide enough, that is, it extends forward from the target enough, so that a ball striking at any height on the target surface 21 and dropping therefrom will land on the cushion. Like the target, the cushion 16 may be of any suitable construction or composition as long as it will prevent a rebound of a ball dropping thereon; and its top surface is

formed to incline downward and away from the target 12 so that the ball will roll therefrom into one of the channels 17.

A sideboard 41 is arranged at either side of the channels 17 and cushion 16 to extend between the inner end of the base 1 and the target 12, the forward ends of the sideboards being of the same height as the base and the rear ends thereof rising to approximately one-third the height of the target. As implied, the sideboards 41 will act to confine within the limits of the cushion 16 and channels 17 a ball which might otherwise be directed to one side thereof, and they also serve to support the target 12 in the forwardly inclined position already mentioned. It is pointed out that such inclination of the target is intended to prevent a ball striking the surface 21 thereof from "climbing" and thus insure its coming to a dead stop so as to drop onto the cushion 16.

The top horizontal wall 25 of the base 1 is adapted to present a surface suitable for putting. To this end the wall 25 per se may be formed of material which will present the desired surface or, as shown, it may be covered with material 42 which embodies at least some of the characteristics of the grass of a putting green, such as resistance to the travel of a ball thereover, influencing the direction of the ball as does the green according to the thickness of the grass thereof in localized areas and the direction in which the grass "lays," etc. For this purpose, a material such as short nap carpeting may be employed with good results. If desired the surface of the covering 42 may be built up in different areas to provide slight variations in its surface contour more nearly to approach actual conditions encountered on a regular putting green and thus tax the player's skill to a greater extent than if the surface were absolutely level. While not absolutely necessary, suitable indicia may be provided at the inner end of the bank of escapements 15 to indicate the location of the escapements 30; or such indications may be marked off on the lower part of the target 12.

In the use of the apparatus, and as already pointed out, the player may use driving, approaching and putting strokes with the same fullness and other characteristics of swing as on the regular golf course, and for each shot made a stroke value will be recorded on the scoreboard 13. Thus, in driving, the ball 10 may be teed-up on the tee 11, and with the aperture 22 in the target 12 as an objective the ball may be driven with all the skill at the player's command. Assuming that the ball is sufficiently well directed to enter the aperture 22, it will be conducted by the conduit 23 and directed onto the cushion 16 so as to roll therefrom into the center channel 17. More specifically, a group of 3 or 5 of the centrally located escapements 30 will be adapted to record a single stroke, the lowest score value, so that the ball need not discharge from the conduit 23 and pass over the cushion 16 so accurately as to enter the center channel 17, its entry into any one of the selected group of channels resulting in its being conducted thereby to an escapement 30 through which, in passing, it will effect the recording of a single stroke by actuating the respective electric contact element 37 before continuing its passage down the filler 26 into the well 18 from which it may be retrieved for further use. In the event that the ball strikes the target surface 21 instead of entering the aperture 22, there will be no appreciable rebound and the ball will drop from the striking point onto a portion of the cushion 16 directly therebelow. Again there will be no rebound of the ball from the cushion 16, and the ball will roll therefrom into one of the channels in that region and be guided thereby to the respective escapement 30. According to the location of that particular escapement 30 relative to the center escapement, the respective stroke value accorded the escapement through which the ball passes will be recorded on the scoreboard 13.

For an approach shot, the ball may be teed directly on the mat 9. In this instance the player may use a stroke for a long approach with the aperture 22 as the objective; or he may choose to make a long chip shot with the aperture 22 as the objective or a short chip shot with any point beyond the escapement unit 15 as the objective. In any case, the return of the ball to the well 18 will come about just as described in connection with a driving stroke, and according to the accuracy of the shot a stroke value therefor will be recorded on the scoreboard 13 depending upon whichever of the escapements 30 the ball passes through.

Needless to say, in putting the ball will be dropped on the covering 42 near the tee end of the base 1 and the putt will be made with respect to the center escapement 30, the stroke value subsequently recorded therefor being determined according to the accuracy of the putt. Of course, if the ball stops short of the escapement unit 15 no stroke value will be recorded. In such case it will be assumed that two putts were required to "sink" the ball. On the other hand, if the ball is putted accurately, but too hard, it will pass beyond the escapement unit 15 with such speed as to strike in a channel 17 or on some other surface beyond the escapement unit, whereupon the stroke value to be recorded will be determined solely by the deflection of the ball after striking, but in any event the stroke value recorded will very likely correspond to that which would result from the same stroke on a regular putting green.

As a matter of explanation, it is pointed out that the scoreboard will be adapted to record a cumulative score up to a certain number, say ten. Thus in either an instructive or competitive use of the apparatus, a cumulative score will be recorded for each hole with the player making a drive, an approach and a putt, although the play is not necessarily limited to three shots. For example, if it is predetermined that the yardage of the hole being played is long, the player may employ other wood shots after driving, or long iron shots. In other words, any type of shot, or different types of shots in any sequence that might be employed in a regular game of golf, may be used.

It has been stated that in the event of a putt being made so that it fails to record a stroke value it will be assumed that two putts were required to "sink" the ball. Attention is called also to the fact that if the ball is driven from the tee so inaccurately or improperly that it comes to rest upon the covering 42 without having effected the recording of a stroke value automatically, nevertheless, like the putt referred to, a ball thus played constitutes a shot, for example a "lost" ball, for which a stroke value should be recorded. Therefore, if desired, a manual control device may be conveniently located at the tee end of the apparatus for operating the scoreboard 13 to

add to the total registered thereon a predetermined stroke value for each shot thus made.

The ball reservoir or well **18** is accessible through an opening in the top wall **25** of the base **1** which is closed by a movable cover **45**. If the apparatus is used for amusement, it may be desirable to have a limited number of balls **10** contained in the well **18** and the cover **45** operated by suitable coin-controlled locking mechanism. On the other hand, if the apparatus is intended for private use, no locking mechanism is required and the cover **45** may be left free for movement at any and all times to permit access to the ball supply. Whichever arrangement is employed is immaterial to the present invention.

It will be clear now that the present invention provides an apparatus which in all essential respects provides the player with the means for practicing or playing golf just as on a regular golf course. In the use of the apparatus, it is not necessary to perform trick shots or employ unorthodox technique. The score that a player makes depends solely upon his skill in playing the regular game. The apparatus, of course, may be built to different specifications as to size, and may be set up indoors or out-of-doors. Moreover, two or more units may be set up side by side, which particularly adapts the apparatus for golf practice ranges, amusement parks, and the like. As already stated, a preferred embodiment of the invention only has been shown in the accompanying drawings and obviously many variations and modifications may be made therein which will still be comprised within its spirit, and the invention is not limited to any specific form or embodiment except insofar as such limitations are specified in the appended claims.

Having thus described my invention, what I claim is:

1. A golf game apparatus including an upright target comprising enclosing sides and back filled with padding material, said target presenting a front impact surface composed of pliant material; a cushion extending forwardly from the foot of the target and presenting a forwardly and downwardly sloping top surface of pliant material; downwardly inclined runways contacting with and reaching forwardly from the cushion; and a base member communicating with and stretching forwardly from the runways and formed with a bottom, enclosing side walls and a top.

2. A golf game apparatus including an upright target comprising enclosing sides and back filled with padding material, said target presenting a front impact surface composed of pliant material and formed with a pair of vertically spaced apart openings; a conduit at the rear of the impact surface communicating between said openings; a cushion extending forwardly from the foot of the target and presenting a forwardly and downwardly sloping top surface of pliant material; downwardly inclined runways contacting with and reaching forwardly from the cushion; and a base member communicating with and stretching forwardly from the runways and formed with a bottom, enclosing side walls and a top.

3. A golf game apparatus as in claim 2 in which the target is forwardly inclined, and the upper of the openings is centrally disposed of the target.

4. A golf game apparatus as in claim 2 in which the runways are arranged in contiguous lateral relation.

5. A golf game apparatus as in claim 2 in which the base member has below its top a forwardly and downwardly sloping filler, alarm device elements arranged in said filler one adjacent the outer end of each runway, and a scoring device is arranged above the target and is operable by said alarm device elements.

6. A golf game apparatus including an upright target comprising enclosing sides and back filled with padding material, said target presenting a front impact surface composed of pliant material and formed with a pair of vertically spaced apart openings; a conduit at the rear of the impact surface communicating between said openings; a cushion extending forwardly from the foot of the target and presenting a forwardly and downwardly sloping top surface of pliant material; downwardly inclined runways contacting with and reaching forwardly from the cushion; a forwardly and downwardly sloping escapement unit contacting with and extending forwardly from said runways and constructed with passages in register with and forming continuations of said runways and having restricted outer ends; and a base member communicating with and stretching forwardly from the escapement unit and formed with a bottom, enclosing side walls and a top.

7. A golf game apparatus as in claim 6 in which the top of the base member is formed of carpeting material and presents an irregular surface, and said base member has between its top and bottom a partition extending from an inner corner of the base to the opposite diagonal outer corner and has below its top a forwardly and downwardly sloping triangular filler extending between said partition and a side wall of the base and from the escapement unit to the front wall of the base.

8. A golf game apparatus including an upright forwardly inclined target comprising enclosing sides and back filled with padding material; said target presenting a front impact surface composed of pliant material and formed with a pair of vertically aligned and spaced apart openings, the upper of said openings being located centrally of the impact surface; a conduit at the rear of the impact surface communicating between said openings; a cushion contacting with and extending forwardly from the foot of the target and presenting a forwardly and downwardly sloping top surface of pliant material; downwardly inclined runways contacting with and reaching forwardly from the cushion and arranged in contiguous lateral relation; a forwardly and downwardly sloping escapement unit contacting with and extending forwardly from said runways and constructed with passages in register with and forming continuations of said runways and having restricted outer ends; a base member communicating with and stretching forwardly from the escapement unit and formed with a bottom, enclosing side walls and a top formed of carpeting material and presenting an irregular surface, said base member having between its top and bottom a partition extending from an inner corner of the base to the opposite diagonal outer corner thereof, and said base having below its top a forwardly and downwardly sloping triangular filler extending between said partition and a side wall of the base and from the escapement unit to the front wall of the base; electrical contact elements arranged in said filler, one adjacent the outer end of each escapement passage and a scoring device arranged above the target and operable by said electrical contacts.

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