

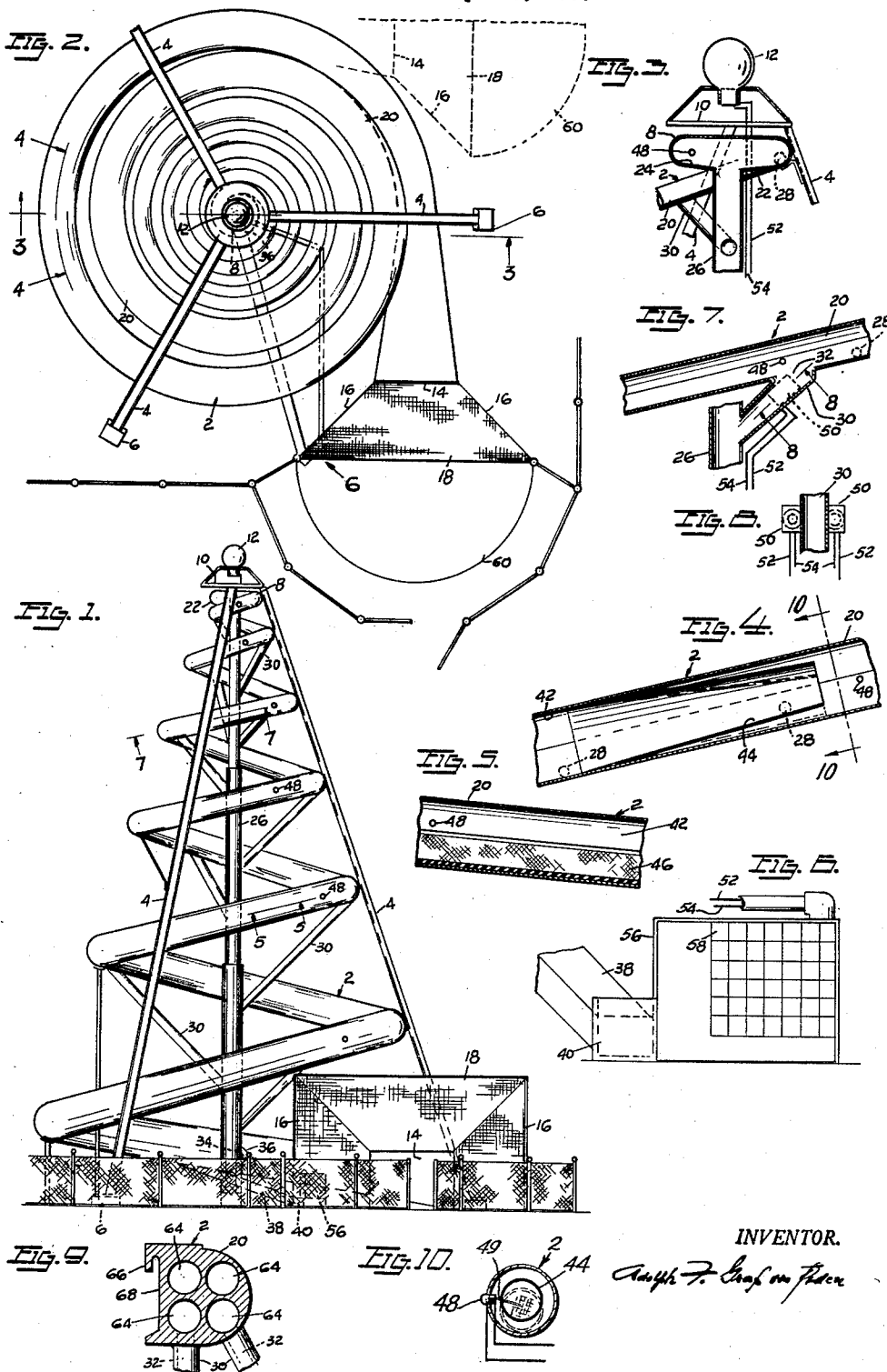
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GOLF TOWER APPARATUS AND THE LIKE

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GOLF TOWER APPARATUS AND THE LIKE

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My invention relates to a golf practicing tower and more particularly to apparatus adapted for providing means whereby the force or press of the golf ball drive, the stance and the swing of the player, also the stroke of the player may be improved and the scaff generally common among the inexperienced may be eliminated to a great degree, further, for providing means whereby the practice of golf game may be carried on indoor or sheltered places and not affected by weather conditions.

Accordingly an object of my invention is to provide a spirally arranged tubular section consisting of a tube, conduit or chute, said tubular section being gradually spiralled and gradually diminishing in size toward the center or top of the spiralled structure which is supported in place by means of a suitable tower frame, said tubular section having suitable impediments disposed therein for simulating nearly natural hazards, such as may be encountered by means of loose earth, sand, bunkers and the like, for causing the speed and velocity of a driven golf ball to be reduced, and for measuring and recording the maximum force, velocity and speed of the driven ball.

Another object of my invention is to provide a suitable inclined plane structure having a sloping path for a gradual and circular upward line of ascent, and having a spirally circular tube gradually extending and diminishing in size, said tube being provided with suitable flexible impediments which are disposed at intervals within the orifice thereof, for directing and for maintaining a nearly central path of flight for said golf ball within said tube and thereby gradually retarding the force, speed, velocity or impact of the driven golf ball.

A further object of my invention is to provide an apparatus having a spirally arranged tube or chute, said tube having an orifice or passage gradually and progressively diminishing in size, area and configuration, also said tube having suitable lining disposed at the internal surface thereof, adapted for retarding the speed and velocity, including the force of the golf ball when driven into the open front section of said spiral structure, during or when practicing golf ball drive.

Another object of my invention is to provide said spirally arranged tube with a set or plurality of electrically actuating means, said means are spaced at regular intervals or distances and having suitable illuminating means disposed externally of said tube so that the progress of the passing golf ball within said tube may be noted and recorded.

A further object of my invention is to provide said spirally arranged tube with suitable trap means adapted for retrieving the golf ball from said tube nearly at the time when the speed, acceleration and velocity of said golf ball stops rolling, also having means connecting said trap means for directing said golf ball into a receptacle, said receptacle being at the point or place where the lowermost opening of said tube open front section is positioned.

A further object of my invention is to provide said spirally arranged tube out of suitable flexible material and with suitable telescoping means adapted for extending the center platform and the upper tube section tip of the apparatus to any desired height or upward position.

Another object of my invention is to provide said spirally arranged tube with electrically actuating and

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electrically indicating means, adapted for indicating and for recording the distance or travel of the golf ball within said tube, which may be computed and compared with the distance and the force of drive of said golf ball on the golf course.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description, providing such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical in manufacture, relatively simple, and of general superiority and serviceability.

Reference is now had to the accompanying drawings, in which the similar reference characters denote the same parts.

In the drawings:

FIG. 1 shows a front elevational view of the golf practicing tower.

FIG. 2 shows the top view of the tower structure together with the spirally arranged tubular section, taken from the top of FIG. 1.

FIG. 3 shows a vertical sectional view of the tower tip section, taken on lines 3-3 of FIG. 2.

FIG. 4 shows a fragmentary sectional view of the tubular section, showing one of the impediment units in position, taken on the lines 4-4 of FIG. 2.

FIG. 5 shows another fragmentary sectional view of the tubular section, disclosing another type of the impediment disposed therein, taken on lines 5-5 of FIG. 1.

FIG. 6 shows the front elevational view of the golf ball retrieving receptacle and the recording cabinet, taken in the direction of the arrow 6 in FIG. 2.

FIG. 7 shows a fragmentary and vertically sectional view of the tubular section and the golf ball retrieving member connecting the center telescoping golf collecting tube, showing same in a modified form, and taken on lines 7-7 of FIG. 1.

FIG. 8 shows a fragmentary sectional view of the golf ball retrieving member, taken on lines 8-8 of FIG. 7.

FIG. 9 shows a typical cross sectional view of the combined tubular section, showing a multiple tubular openings or chutes disposed in single tubular section structure, showing same in a modified form.

FIG. 10 shows a sectional view of the tubular section, showing the illuminating lamp and a switch, taken on line 10-10 of FIG. 4.

Describing my invention more in detail, in its broader aspects, said invention comprises a spirally constructed tubular section or tube which gradually diminishes in diameter and extends upwardly in an inclined plane, and is generally designated by numeral 2, which is supported in place and position by means of an uprightly disposed frame 4, the lower ends of which being suitably mounted upon foundation blocks 6, while the upper end thereof forming an apex 8 and having a platform 10 provided with a suitable illuminating member 12.

Said tubular section 2 being of a flexible or rigid structure comprises an open front section 14 which is provided with suitably flared out screen sides 16 and an upper screen section 18. The open front section 14 extends inwardly and gradually diminishing in size and orifice configuration, thus forming a longitudinal convolutive tube extension 20 which terminate at the center upper section 22 and is adapted for connecting a circularly formed bowl or receptacle 24.

Said receptacle 24 is supported in its position by means of an upright member 26, which may, if so desired be fixed in its length, or be a telescoping member tubular in structure and adapted for forming a suitable passage for the golf ball 28.

Said tube extension 20 is also provided with a plurality

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of golf ball retrieving passages 30, each of which extending downwardly and at various intervals or positions, the downwardly extending ends thereof connecting said upright member 26, as shown.

When said golf ball 28 is driven into said open front section 14 the momentum of impact causing it to follow into said tube extension 20, and after reaching a particular position therein, said ball 28 will stop and when retracting its position it will fall into the nearest opening 32 of the respective retrieving passage 30, causing said golf ball to be directed into said centrally positioned upright member 26.

Said upright member 26 is also provided with a golf ball diversion tube 34 to which a suitable collection tube 36 is connected, and having its outwardly extending end section 38 terminating at the lowermost position thereof, to which a suitable collecting receptacle 40 is connected, which is disposed in close proximity to the front of one of said screen side sections 16.

The interior surface section 42 of said tube extension 20 is provided with suitable impediments such as a flexible tube 44, which is small in diameter at the extended end thereof for directing the flight of said passing golf ball into a nearly central position within said tube extension 20, see FIG. 4, or having a suitable lining 46, as shown in FIG. 5, including other suitable golf ball deflecting hazards, (not shown) so that the speed, velocity and force of a driven golf ball 28 may be directed, diverted and caused to be impeded in its movement of flight and travel.

It may be noted, that said tubular section 2 may, if so desired, be made and constructed out of several tube extensions 20, also, in halves, as shown that same may be made in FIG. 4, so that the servicing, repair, installation and maintenance of the actuating component parts mounted therein may be facilitated.

Said tube extension 20, when in combination with several similar tubes that are used for forming said tubular section 2, is provided with a plurality of illuminating members or lamps 48, and also, each tube extension 20 is provided with a plurality of said retrieving passages 30, each being provided with a suitable switch 50, so that during the progress of the golf ball passing through said tube extension 20, and when returning and entering said retrieving passage 30, said golf ball will cause said switch 50 to close, which will close the electrical circuit therein, and thereby energizing the particular indicator assigned to said switch and disposed within said recording apparatus, thus recording in said recording apparatus the particular switch so closed, which will indicate the position of said golf ball in said tube extension 20 and its passage.

Said illuminating members or lamps 48 are mounted at the exterior side of said tube extension 20, each having a suitable contact and independent switch 49 disposed at the inner surface side of said tube, so that when said switch 49 becomes closed momentarily by the contact with a passing golf ball, it will cause said lamp 48 to become energized and thereby illuminating and indicating the passage of said golf ball 28.

Also, as shown in FIGS. 7 and 8, said switch 50 in each retrieving passage 30 may be actuated by means of a passing golf ball when entering said opening 32, wherein a suitable electron-ray tube or the like is mounted, said electron-ray tube having the electrical lead wires 52 and 54 connecting the conventional electrical circuit of the apparatus.

The lead wires of the electric circuit in said apparatus are arranged for connecting said lamp switches 49 in parallel which includes the wiring of said illuminating member 12, said electrical wires extending to a suitable control apparatus disposed in said cabinet 56.

Said switches 50 disposed in the respective retrieving passages 30 are wired separately, the individual lead wires 52 and 54 are arranged for extending into and connecting the separate and individual marker or indicator 58 dis-

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posed in said cabinet 56, each individual indicator 58 having suitable numerical indicia imprinted thereon for designating yardage value estimate and corresponding with the particular designated position of each switch 50 mounted in the respective retrieving passage 30 in said tube extension 20 and calculated from the tee-off ground and said open front section 14 of said apparatus.

Said indicators 58 are disposed in said cabinet 56 in suitable horizontal rows which are used for indicating the calculated yardage and in vertical rows for indicating the numerical strokes, so that when said golf ball 28 is driven and propelled into said tube extension 20 and when the longitudinal drive will reach a position that will cause said golf ball to reduce its speed and force, causing said golf ball to roll into or causing same to roll back and drop into said nearest retrieving passage 30, said golf ball 28 falling into said retrieving passage 30 will cause the respective switch 50 to become energized and the electrical contact so made will cause the respective indicator 58 to become activated, which will illuminate the indicia imprinted thereon and indicating the maximum drive in yardage attained by said golf ball and the particular stroke, so that each individual and independent golf ball drive will then be individually indicated and recorded in said recording cabinet 56.

After a contact is made with said switch 50 by said downwardly rolling golf ball 28 in the respective retrieving passage 30, said golf ball is directed into the hollow section of said upright member 26 and then, passing through said diversion tube 34 and said collection tube 36 said golf ball comes to rest within said collecting receptacle 40, so that same may be used again for another drive and in the manner hereinbefore described.

As shown in FIG. 2 said flared out screen sides 16 of the apparatus are disposed in close proximity to the teeing-ground or marked space 60, so that nearly normal or similar to the golf links usage condition may be had when addressing the golf ball, also, said apparatus is provided with a suitable fence disposed in close proximity to and surrounding said teeing-ground, so that a freedom of movement for the player may be had.

Obviously it may be noted, that one tubular section 2 consisting of several of said tube extensions 20 may be constructed and combined, each tube extension 20 having a downwardly extending open front section 14 and adapted for forming a suitable polygon shown in dotted lines of FIG. 2, and that said tube extensions 20 may be disposed in or supported by an outwardly extending bracket and held thereon in a suitable manner upon said upright member 26, whereby the upwardly extending frame 4 may be eliminated, and, that said combination of convolutive tube extensions 20 may be constructed having a considerable length without increasing the height or width of the structure, thus providing a multiple tubular section 2, a long range drive and and considerable distance for the golf ball to travel.

As shown in FIG. 9, said tubular section 2 may be made in a form for combining several of independent tube passages 64, each of which having suitable impediments 44 including switch means 50, so that the passage of the golf ball independently passing therethrough may be indicated. Said combined tubular passages being used in a polygonal structure of the apparatus, as indicated in combination with dotted lines shown in FIG. 2.

Also, said combined tubular section 2 is provided with a rearward lip member 66 interconnecting a suitable recess 68 and which is adapted for mounting said tubular section 2 in sections, upon a suitable spiral member which may be mounted on said upright member 26 (not shown), and thereby forming a continuous and a spirally arranged combination of convolutive tube extensions 20.

Obviously it may be noted, that each independent tube passage 64 is independently connected with and leads into the independent and respective open front section 14 of the apparatus, also, that a number of open front sections

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14 may be arranged for interconnecting each section 14 with each individual and independent tube passage 64, so that said multiple tube structure 2 may be arranged for accomplishing identical function and results as herein before described.

While I have thus described my invention with great particularity, it will be clear that the same may be modified throughout a wide range.

I, accordingly, do not propose to be limited to the exact details of construction herein shown on the drawings and described in the specification, but reserve the rights in practice to make any and all changes and modifications therein, which may come within the scope of the appended claims.

I claim as my invention:

1. In a golf ball playing and practicing apparatus the combination of an upwardly extending frame having the upper ends terminating at an apex and the wide apart lower ends thereof secured in foundation blocks, a spirally helical tubular section supported by said frame, said tubular section comprising a longitudinal convolute tube extension having a gradually diminishing orifice area throughout its length terminating at the upper end thereof in close proximity to said apex of said frame and having the large orifice area at the lower end of said tube extension terminating at the extended lower ends of said frame, a circular receptacle connecting said upper end of said tube extension and mounted at said apex of said frame, an open front section at said lower end of said frame connecting said large orifice area of said tube extension, a teeing-ground in front of said open front section for driving and directing a golf ball into said tube extension, a plurality of impediment means disposed at intervals throughout said tube extension for guiding and directing the flight of said golf ball and for retarding therein the force, speed and the velocity of said passing golf ball, a plurality of illuminating means extending outwardly through the wall of said tube extension and actuated by said passing golf ball for indicating the flight position of said golf ball in said tube extension, a golf ball retrieving means connected to and extending downwardly from said tube extension and positioned at intervals along the path of said passing golf ball, and a diversion tube connecting said retrieving means and converging same at the side of said open front section and in close proximity to said teeing-ground, for retrieving, directing and for collecting said golf ball retrieved from said convolute tube extension of said apparatus.

2. In a golf practicing apparatus of the class described comprising in combination, a frame, a spirally helical and upwardly extending tube extension supported by said frame and having an open front section at the lowermost end and disposed at the base of said frame, a teeing-ground in front of said open front section, a plurality of impediment means in said tube extension for controlling and directing the flight of a golf ball when passing there-through and for retarding and impeding the force, speed and velocity of said passing golf ball when driven into said tube extension through said open front section, a plurality of illuminating means secured in said tube extension and protruding outwardly through the wall section thereof, a switch in each illuminating means internally positioned in said tube extension and actuated by said passing golf ball for indicating the position of said golf ball when in flight, a plurality of retrieving means secured in said tube extension at intervals and extending downwardly therefrom, an indicating switch with

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electron tube secured in close proximity to the inlet opening of said retrieving means with respect to said tube extension and actuated by said golf ball passing there-through, a diversion tube connecting each of said retrieving means extending downwardly to the base of said frame, a collection tube connecting said diversion tube and terminating at said open front section of said tube extension, a collecting receptacle connecting the lowermost end of said collection tube and disposed at one of said screen sides of said open front section for collecting said golf ball passing through said retrieving means and out of said tube extension, a recording cabinet secured to said collecting receptacle, and a plurality of indicator means in said recording cabinet for independently connecting therein each indicating switch of each retrieving means for indicating independently the position of said golf ball when passing through and out of the respective retrieving means and at the time when said golf ball actuates the respective indicating switch and thereby recording the distance said golf ball has traveled before entering into said retrieving means and before descending and entering into said collecting receptacle.

3. In a golf practicing apparatus of the class described comprising in combination, a spirally helical tubular section centrally supported by a telescopic upright member, a frame having an apex and a plurality of widely separated lower ends for externally supporting each convolute section of said helical tubular section, said tubular helical section consisting of a longitudinal convolute tube extension having a gradually diminishing orifice area throughout its entire length with large orifice area at the lowermost end thereof, an open front section connecting said lowermost end of said convolute tube extension, a teeing-ground in front of said open front section, an enclosure surrounding said teeing-ground and connecting said open front section, a plurality of impediment means secured at intervals in said convolute tube extension of which at least one of said impediment means being a flexible tube with a restricted area at the extended end thereof for guiding and for directing a passing golf ball into its central flight position in said tube extension and for retarding the speed and velocity of said passing golf ball when driven into said open front section and when passing through said convolute tube extension, a plurality of retrieving means extending from said convolute tube extension and positioned at various intervals therein and connecting said telescopic upright member, collection tube connecting said plurality of retrieving means extending to and terminating at said open front section for retrieving said golf ball from different positions of said convolute tube extension, and a collecting receptacle connecting said collection tube for receiving said retrieved golf ball therein.

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