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GOLF BALL PROJECTOR

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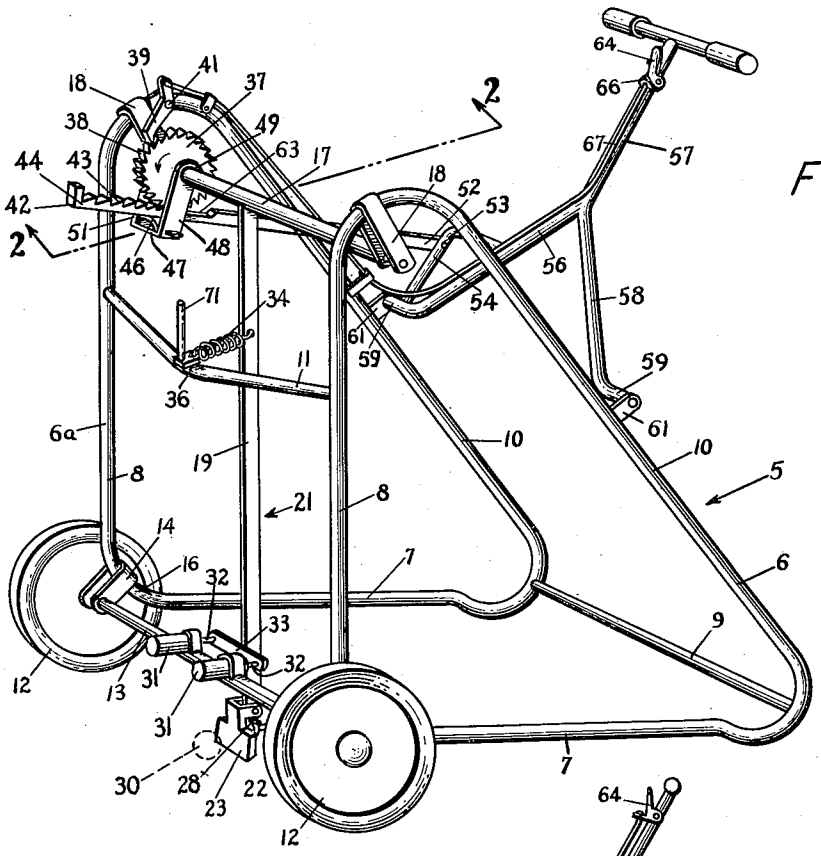


Fig. 1

Fig. 2

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GOLF BALL PROJECTOR

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1 Claim. (Cl. 124—16)

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This invention relates generally to golf-ball driving devices and in particular to a golf-ball driving device of portable type adapted to be used in the playing of golf over a usual golf course.

An object of this invention is to provide an improved golf-playing device.

A further object of this invention is to provide a golfing device for use in golf course play in which a mechanically actuated golf club is adapted to simulate substantially all of the shots of a usual hand-manipulated club. Still another object of this invention is to provide a golf-playing machine capable of being used by physically handicapped persons, such as war veterans or the like, in play over a usual golf course.

A feature of this invention is found in the provision of a golf-ball driving device in which a golf club is supported in an upright position adjacent to the front end of a portable frame for swinging movement longitudinally of the frame. The forward swinging movement of the club is stopped at a substantially ball-contacting position by a yieldable stop means carried on the frame. The club is moved rearwardly to a swing starting position by a manually operated lever means and is then held in its starting position, independently of the lever means, by a releasable locking means. On a release of the locking means the club is swung forwardly to its forward or stop position by a tension spring being placed under tension on the rearward movement of the club to its starting position.

Further objects, features, and advantages of this invention will become apparent from the following description when taken in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of the golf-playing device of this invention; and

Fig. 2 is a reduced sectional view as seen along the line 2—2 in Fig. 1.

With reference to the drawings the golf-playing device of this invention is illustrated in Fig. 1 as having a portable frame, indicated generally at 5, and including a pair of like upright tubular side sections 6 and 6a of a generally triangular shape having their base members 7 arranged in substantially horizontal planes, one of their side members 8 in vertical planes and their third side members 10 inclined downwardly and rearwardly between the members 7 and 8.

The frame sections 6 and 6a are arranged oppositely from each other with the side members 8 at the front of the frame 5. The rear ends of the base members 7 are connected together by a tubular transverse brace 9 and the upright members 8 are connected together at positions spaced

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downwardly from their upper ends by a transverse brace 11 which is of a generally curved shape projected forwardly of the members 8. A pair of ground wheels 12 are rotatable on an axle or shaft 13, which is mounted in brackets 14 suitably secured, as by welding, to the junction 16 of a base member 7 and its corresponding upright member 8.

A rock shaft 17 (Figs. 1 and 2) is rotatably supported in bearings 18 which are secured on the side sections 6 and 6a adjacent the top ends of the upright members 8. Supported from the transverse shaft 17, intermediate its ends, is the shank or shaft 19 of a golf club, designated generally as 21. The shank 19 is of a rod or bar construction and upon rocking movement of the transverse shaft 17 is pivotally moved or swung in a vertical plane extended longitudinally of the frame 5. Pivotally supported at 22, adjacent the lower end 24 of the shank 19, is a club head 23. The lower end 24 of the shank 19 is of a reduced section and threadably carries an adjusting screw 26, the front end 27 of which is in abutting engagement with the rear side of the club head 23. This engagement is maintained by the provision of a torsion spring 28 mounted about the pivot 22 and acting on the head 23 to yieldably hold the head against the front end 27 of the screw 26. Thus by merely manipulating the screw 26, the head 23 is pivotally moved so as to change the pitch or angle of its striking surface relative to a golf ball 30, which is to be driven. By virtue of this pitch adjustment of the head 23, it is seen that many different type golf shots are obtainable by the club 21.

The forward swinging movement of the club 21 is limited at substantially a ball-contacting position by the provision of a yieldable stop means comprising a pair of like dash-pot structures 31 mounted horizontally on the wheel shaft 13 to opposite sides of the path of pivotal movement of the shank 19. The yieldable members 32, of the dash-pot structures 31, are connected together by a bumper bar 33 which is positioned rearwardly of the wheel axle 33 so as to engage the shank 19 after the golf ball 30 has been contacted by the club head 23. The club 21 is biased or yieldably urged toward its stop position against the bumper bar 33 by a tension spring 34 connected between the golf shank 19 and the intermediate portion 36 of the transverse brace 11.

The rock shaft 17, adjacent the frame section 6a, carries a ratchet wheel 37 having teeth 38 which are engageable with a stop pawl 39, of gravity actuated type, pivoted at 41 on the upper end

of the frame section 6a. The ratchet 37 is rotated in a counter-clockwise direction, as indicated by the arrow in Fig. 1, by a rack bar 42, extended longitudinally of the frame 5 and having teeth 43 formed over its front section 44. The teeth 43 are yieldably held in engagement with the teeth 37 of the ratchet by a flat spring 46 supported in the short leg 47 of an L-shape member 48, and the long leg 49 is loosely mounted on the rock shaft 17. The leg 49 and an upright projection 51 on the leg 46, constitute guide members for retaining the bar 42 in a slidably supported position on the spring 46.

The rear end 52 of the rack bar 42 is pivoted at 53 on an upright support 54 which is secured to one leg 56 of a handle or lever member 57 extended rearwardly from the frame 5. The leg 56, and corresponding leg 58 for the handle 57, are arranged in a relatively V-relation with their free or front ends 59 pivotally supported in bearing 61 carried on the inclined members 10 of the frame sections 6 and 6a, so that the handle 57 is pivotally movable in an up and down direction.

The teeth 38 of the ratchet 37 and the teeth 43 on the rack bar 42 are relatively inclined in one direction so as to be engageable when the rack 42 is moved rearwardly, and to slip by each other, as provided by the spring 46, when the rack is moved forwardly. Thus on a downward pivotal movement of the handle 57, the rack 42 is engaged with the ratchet 37 whereby to rotate the ratchet 37 in a counter-clockwise direction to provide for a rearward movement of the club 21 to what shall be termed its swing-starting position. This starting position may vary, according to the type of golf shot wanted, and is retained by the holding action of the pawl 39. When a starting position is reached, the handle 57 is pivoted upwardly to slip the rack 42 in a forward direction, relative to the ratchet 37, until the ratchet is positioned opposite a cut-away portion 63 formed in the rack at a position rearwardly of the teeth 43, it being understood that the spring 46 is depressed during this forward movement of the rack.

To release the pawl 39 from the ratchet 37 there is provided on the handle 57 a pivoted lever 64 having an upright projection 66 to which is attached one end of a release cord 67, which is suitably guided along the frame section 6a for connection of its opposite end to the pawl 39. On a downward pivotal movement of the lever 64 to a position against the handle 57, the pawl 39 is moved in a clockwise direction out of engagement with the ratchet 37. With a release of the ratchet 37 the club 21 is swung forwardly to its stop position against the bumper bar 33 by the action of the spring 34, it being understood that the spring 34 is placed under tension on rearward movement of the club 21 to its swing-starting position.

In the use of the device of this invention the frame 5 is manipulated to position the club head 23 to engage the ball 30. The pitch of the head 23 is then adjusted depending upon the type of golf shot to be taken. After this initial positioning of the frame 5, a sighting of the club to drive the ball in its intended direction is accomplished by the provision of an upright sight pin 71 carried on the transverse brace 11 forwardly of the spring 34. The sight pin is arranged in line with the club shank 19 and an object, such as the flag pole on the green of a golf course, or some other fixed object, in the direction of the drive.

The golfer, using the transverse brace 9 as a foot rest, then moves the lever 57 upwardly to its full-line position shown in Fig. 2 so as to position the rearward ones of the teeth 43 in the rack 42 in engagement with the ratchet 37. The handle 57 is then pivoted downwardly to move the club 21 rearwardly to a swing-starting position depending upon the length of the drive or the type of golf shot to be undertaken. In other words, at a tee-off, the club 21 will usually be moved rearwardly to a position farther than that used for a medium shot, or a loft shot. For putting purposes the club 21 may be moved only a relatively short distance rearwardly.

After the starting position has been ascertained the handle 57 is pivoted upwardly to disengage the ratchet 37 from the bar 42 so that on release of the pawl 39 only the ratchet, the rock shaft 17 and the club 21 move as a unit in response to the action of the spring 34. In other words, during the driving swing of the club 21, the ratchet 37 rotates within the cutaway portion 63 formed in the rack bar 42. For moving the device from place to place on a golf course, the handle 57 is used for either pushing or pulling purposes.

Although the invention has been described with respect to a preferred embodiment thereof it is to be understood that it is not to be so limited since changes can be made therein which are within the full intended scope of this invention as defined by the appended claim.

I claim:

A golf-ball driving device comprising, a frame having a pair of transversely spaced front upright members, a transverse shaft rotatably carried on said upright members, a golf club mounted from said shaft for swinging movement between said upright members in a vertical plane extended longitudinally of said frame, means for limiting the forward swinging movement of said club at a substantially golf-ball contacting position, spring means for swinging said golf club forwardly, a ratchet wheel mounted on said shaft, a rack bar engageable with said wheel supported on said frame for movement longitudinally thereof, a lever means pivotally mounted on said frame for up and down movement and extended rearwardly from said frame, means connecting said bar with said lever means such that on downward movement of the lever means said bar is moved rearwardly whereby to rotate said ratchet wheel to provide for the rearward movement of said club to a swing-starting position, means for releasably locking said ratchet wheel in a rotated position, means for disengaging said rack from said ratchet wheel at said rotated position of the ratchet wheel, and means for releasing said locking means to provide for a forward swinging movement of said club by the action of said spring means.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,173,818	Lins	Feb. 26, 1916
1,223,520	Reichhelm	Apr. 24, 1917
1,295,069	Rouen	Feb. 18, 1919
1,780,696	Amsler	Nov. 4, 1930
2,477,308	Malkan	July 26, 1949

FOREIGN PATENTS

Number	Country	Date
15,164	Great Britain	1911