Nov. 4, 1952 J. H. MUNRO 2,616,700

GOLF PUPPET BALL PROJECTOR

Filed April 9, 1951 2 SHEETS—SHEET 1

FIG. 1.

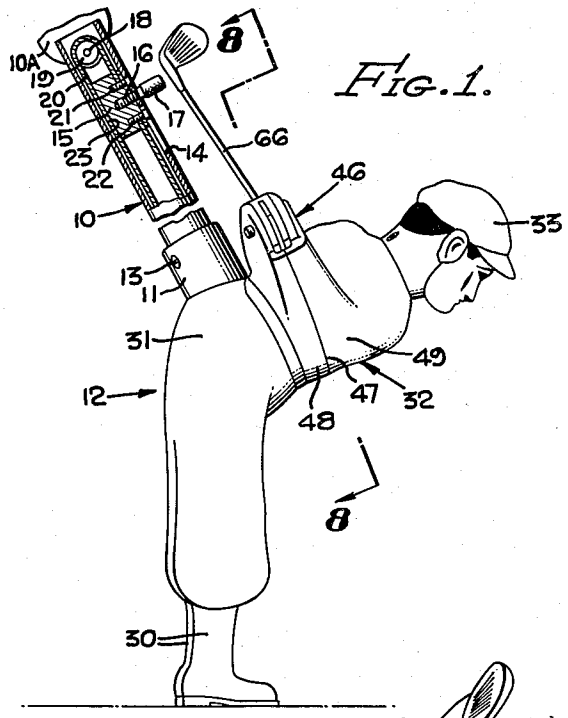


FIG. 2.

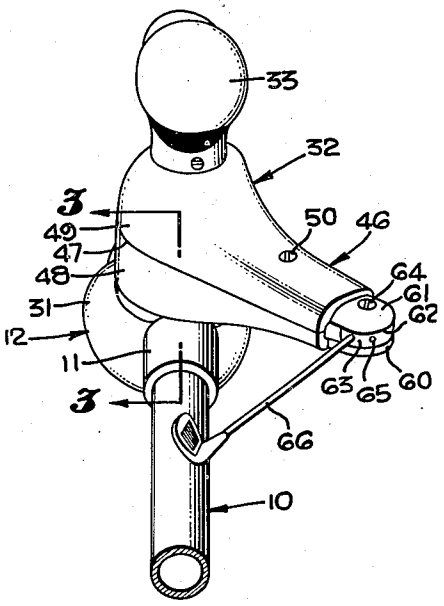


FIG. 8.

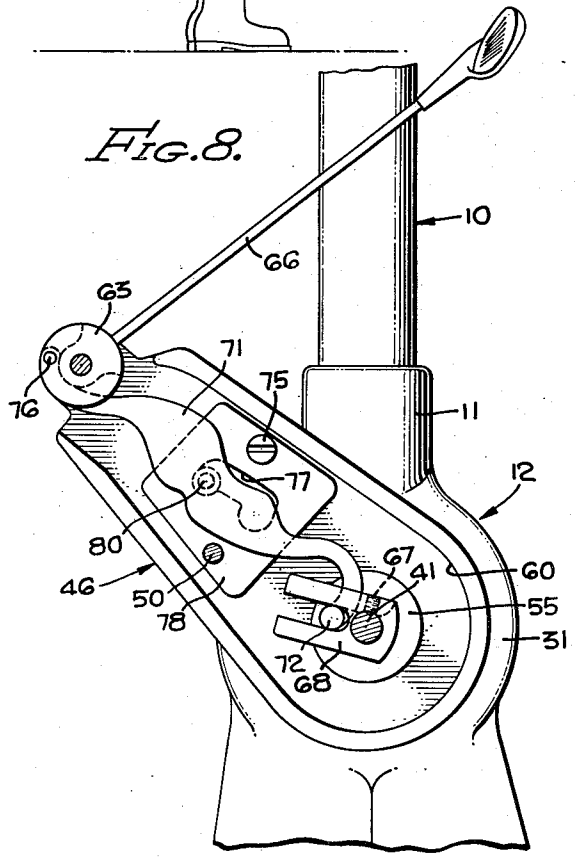


FIG. 4.

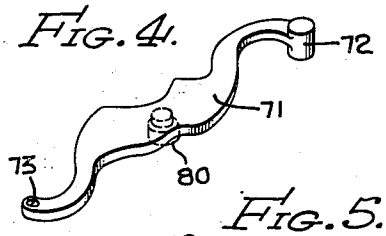


FIG. 5.

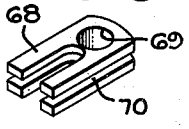


FIG. 6.

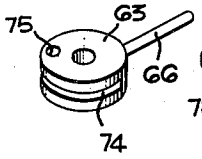
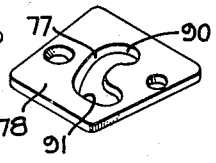


FIG. 7.



INVENTOR.
JAMES H. MUNRO

BY Lyon & Lyon
ATTORNEYS

Nov. 4, 1952 J. H. MUNRO 2,616,700

GOLF PUPPET BALL PROJECTOR

Filed April 9, 1951 2 SHEETS—SHEET 2

FIG. 9.

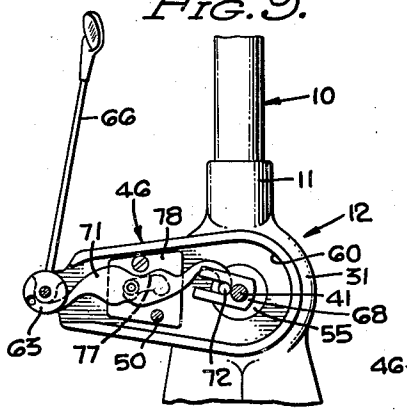


FIG. 10.

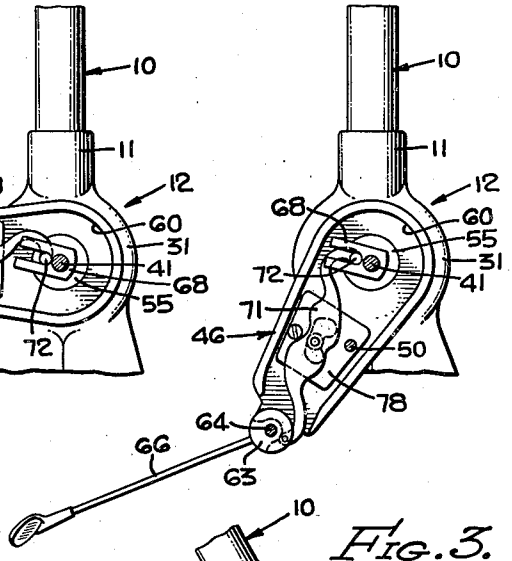


FIG. 11.

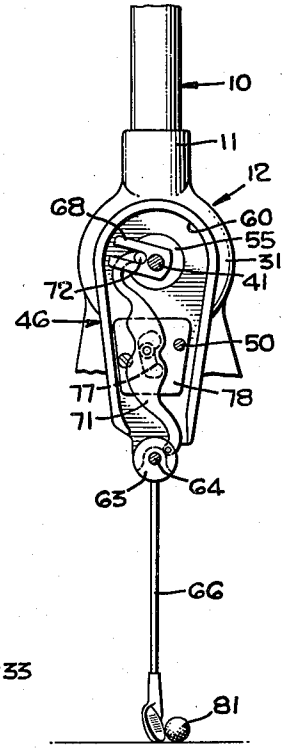


FIG. 12.

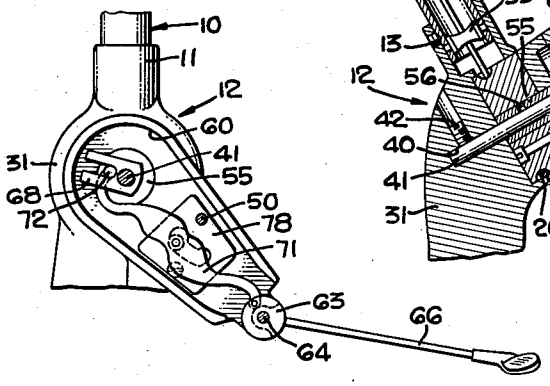


FIG. 3.

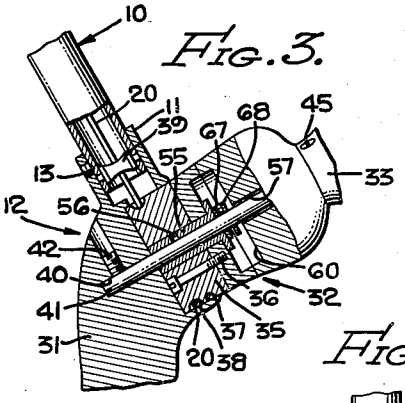


FIG. 14.

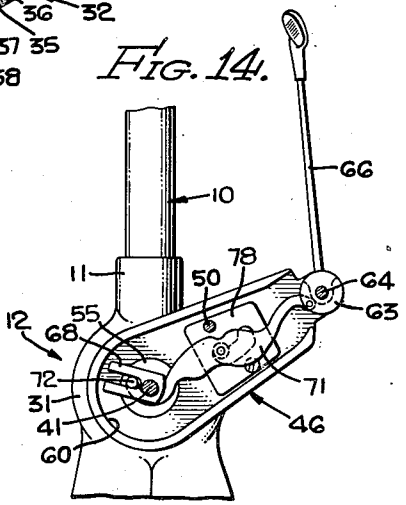
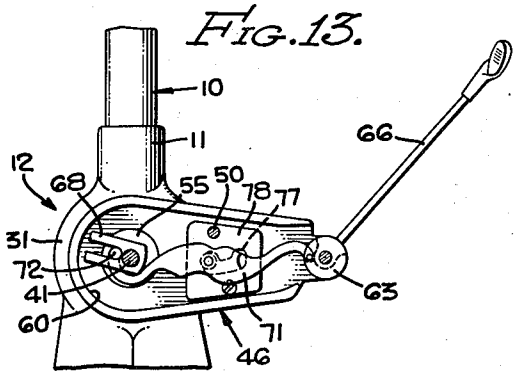


FIG. 13.



INVENTOR.
JAMES H. MUNRO
BY
Lyon & Lyon
ATTORNEYS

Patented Nov. 4, 1952 2,616,700

UNITED STATES PATENT OFFICE

2,616,700

GOLF PUPPET BALL PROJECTOR

James H. Munro, Hermosa Beach, Calif.

Application April 9, 1951, Serial No. 219,957

5 Claims. (Cl. 273—129)

1

This invention relates to toys, and has particular reference to a toy in the form of a mechanical puppet golf player, by means of which the playing of a game of golf may be simulated.

In my U. S. Patent No. 2,513,198 on "Golf Puppet Ball Projector," issued June 27, 1950, is disclosed a mechanical puppet golf player which may be operated to simulate a substantially technically correct golf swing and which may be used in playing a game of golf on any suitable surface as, for example, indoors upon a rug or carpet laid out to simulate a golf course, or outdoors on a putting green, or other suitable area.

One of the principal objects of my invention is to provide such a mechanical puppet golf player, but of improved mechanical structure.

Another object of my invention is to provide novel means, in a mechanical puppet golf player, for simulating a substantially technically correct golf swing, including the proper wrist action in the back-swing and follow-through.

Another object of my invention is to provide a mechanical puppet golf player having a novel cam and linkage structure for simulating the proper wrist action of the theoretically correct golf swing.

Other objects and advantages of this invention it is believed will be readily apparent from the following detailed description of a preferred embodiment thereof when read in connection with the accompanying drawings.

In the drawings:

Figure 1 is a perspective view illustrating a preferred embodiment of my invention, with the upper portion of the operating rod shown in section and axially rotated 90° for clarity of illustration.

Figure 2 is a top plan view thereof.

Figure 3 is a sectional elevation taken substantially on the line 3—3 of Figure 2.

Figure 4 is a perspective view of the link member which is embodied in the wrist operating assembly.

Figure 5 is a perspective view of the forked lever embodied therein.

Figure 6 is a perspective view of the wrist member.

Figure 7 is a perspective view of the cam member for the wrist operating assembly.

Figures 8–14 are a series of sectional elevations taken substantially on the line 8—8 of Figure 1, illustrating the action of the wrist operating assembly during the course of a complete swing.

Referring now to the drawings, the device of this invention is shown as including a tubular

2

operating rod 10 which is secured at its lower end to a tubular extension 11 extending from the simulated golf player or puppet 12, set screw 13 being provided to prevent disassembly of the rod 10 from the extension 11. At the upper end of the rod 10 is a hand grip 10a, the rod 10 being sufficiently long so that the puppet 12 may be rested on the floor and the grip 10a held in the hand of an operator standing in a substantially upright position. The rod is slotted as at 14 and a mandrel 15 is positioned within the rod and carries a pin 16 having a handle 17 which operates in the slot 14 (see Figure 1). Adjacent the upper end of the rod 10 there is provided a pin 18 carrying a wheel or pulley 19, upon which is reeved a wire or cable 20. One end of the cable 20 is affixed to the mandrel by a screw as at 21, and the other end of the cable is similarly affixed as at 22. The mandrel is provided with a longitudinal bore 23 for the reception of one strand of the cable 20.

The puppet 12 is in the form of a figure of a man, including a base member in the form of a pair of legs 30 and a hip portion 31, a torso 32, and a head 33. Means are provided for pivotally connecting the torso 32 to the hip portion 31, and as shown best in Figure 3, these means may include the cylindrical member 35, secured to the torso by means of studs 36, and which member is positioned in a cylindrical seat 37 provided in the hip portion 31. The cylindrical member 35 is grooved as at 38 to receive the cable 20. I prefer to journal a pair of guide rollers 39 at the lower end of the rod 10 for the cable 20. The hip portion 31 is provided with a bore 40 in which is received a rod 41 maintained in position by means of a set screw 42. The rod 41 extends through the torso 32 and into a bore in the head 33 to which it is secured by means of a set screw 45.

A hollow extension member 46, preferably integral with the torso, simulates a pair of arms, and the torso and extension member are split along line 47 into two elements 48 and 49 for convenience of manufacture and assembly. The two elements 48 and 49 are connected together by means of threaded member 50. The torso and cylindrical member are journaled on the rod 41 by means of a flanged bearing 55 which is secured to the cylindrical member 35 by means of set screw 56, the rod extending through the bearing and through an oversize bore 57 in the upper element 49.

The torso and extension member 46 are provided with a central opening 60 in which is mounted the wrist-operating assembly. Both

portions of the extension member 46 are provided with a rounded end piece 60, 61 spaced by a slot 62. A wrist member 63 is mounted on a pin 64 for pivotal motion in the slot 62, and a miniature golf club 66 is releasably secured, by means of set screw 65, to the wrist member. Secured to the rod 41 by means of a set screw 67 is a forked arm 68 which is provided with a bore 69 and a slot 70 formed in a plane perpendicular to the axis of the bore (see Figure 5). A link member 71 (see Figure 4) is provided at one end with a pin 72 carried in the forked portion of the arm 68 for pivotal motion about an axis spaced from the axis of the rod 41, and at the other end with an aperture 73 for pivotally connecting that end to the wrist member. As shown in Figure 6, the wrist member 63 is provided with a slot 74, and an aperture 75 for the reception of a pin 76 which also extends through the aperture 73. It will be noted that the ends of the link member 71 are curved to provide clearance for motion in the respective slots 70 and 74, the link member being generally S shaped. Secured, by means of screw members 50 and 75, to the lower portion of the extension member 46 within the central opening 60 is a cam plate 78 in which is formed a cam groove 77. A cam follower 80 is secured to the underside of the link member 71, and cooperates with the cam groove to actuate the wrist member 63 upon rotation of the torso 32.

It is contemplated that with the device as above described, there will be provided a plurality of golf clubs each having a separate pitch so that, in effect, a full set of golf clubs will be available to the operator. A ball 81, which may be a small sphere of wood or hard rubber or the like, is also utilized.

The operation of the device is as follows: The device is taken by the operator by the grip 10^a and placed on its feet adjacent the ball 81 in a proper position to address the ball. The operating handle 17 is held in one hand and the grip 10^a in the other. By sliding the pin 16 back and forth in the slot 14 the cable 20 can be made to reciprocate, thus turning the cylindrical member 35, and hence also the torso 32 and the arms 46. It will be noted that these members rotate about the stationary rod 41, and that the head 33, being affixed to the rod, also remains stationary. This is an impotrant feature of my invention since the position of the head is thus always maintained in the correct "head down" position. The turning of the torso 32 and extension member 46 also causes the cam 77 to move relative to the follower 80, which in turn causes the wrist member 63, through the agency of the link member 71, to turn or pivot with respect to the end pieces 60 and 61, coincident with the rotation of the torso. As shown clearly in Figures 8–14, means are thus provided whereby the puppet is caused to perform a theoretically correct golf swing, with the "wrists" being "cocked" on the back swing; correct timing so that when the arms and torso face directly forward (see Figure 11) the club is brought into line at the moment of impact; and a full follow-through. It will be noted that the cam groove 77 is shaped so that the end faces 90 and 91 thereof act as stop means to prevent overswinging.

With a device of the character described above, every type of golf shot may be made. The extent of the back swing, as well as the force of the swing, may be controlled at the will of the operator. Given a lofted club, such as would be comparable to a six- or seven-iron, one can pitch, or given an unlofted club, such as a putter, one can simply roll the ball as in putting. One can thus play over obstacles and hazards and eventually into whatever receptacle is provided for the hole, merely by changing clubs and using the particular club which is appropriate for the shot to be made, just as in the actual game of golf. In addition to being a source of amusement, the device is educational as well, since a novice at the game of golf may, by observing the action of the puppet, quickly learn the fundamental of the game, such as keeping the head down and the proper body and wrist action, including the proper timing for the correct swing.

The particular link and cam means described herein for causing coincident rotation of the wrist member with the torso and arms is a decided improvement over the pulley and cable means disclosed in the above mentioned U. S. Patent No. 2,513,198, in that it provides a more durable and positive-acting structure.

While I have shown and described a specific embodiment of my invention, I do not limit myself to the exact details of the construction set forth, and the invention embraces such changes, modifications and equivalents of the parts and their formation and arrangement as come within the purview of the appended claims.

I claim:

1. In a device of the character described, a base member; a torso portion mounted for rotation on said base member; means for rotating said torso portion; an extension member mounted on said torso portion and adapted to rotate therewith; a wrist member rotatably connected to said extension member; a link member operably connected at one end to the torso portion and at the other end to said wrist member; and a cam member on said extension member and cooperating with said link member whereby said wrist member is rotated in timed relation with the rotation of said torso member.

2. In a device of the character described, a base member; a torso portion mounted for rotation on said base member; means for rotating said torso portion; an extension member mounted on said torso portion and adapted to rotate therewith, said extension member having a central opening; a wrist member rotatably connected to said extension member; a link member in said opening and pivotally connected at one end to the torso portion and at the other end to the wrist member; a cam follower mounted on said link member; and a cam secured to said extension member within said central opening, said cam cooperating with said cam follower and link member to cause rotation of said wrist member coincident with the rotation of said torso member.

3. In a device of the character described, a base member; a rod extending from said base member; a torso journaled on said rod above said base member; means for rotating said torso; an extension member mounted on said torso and adapted to rotate therewith, said extension member having a central opening; a wrist member rotatably carried on said extension member; a link member in said central opening, one end of said link member being connected to said torso for pivotal motion about an axis spaced from the axis of said rod, and the other end of said link member being pivotally connected to the wrist member; a cam follower mounted on said link member;

and a cam secured to said extension member within said central opening, said cam cooperating with said cam follower and link member to cause rotation of said wrist member coincident with the rotation of said torso member.

4. In a device of the character described, a base member; a rod extending from said base member; a torso journaled on said rod above said base member; means for rotating said torso; a simulated human head rigidly mounted on said rod above said torso; an extension member mounted on said torso portion and adapted to rotate therewith; a wrist member rotatably connected to said extension member; a link member operably connected at one end to the torso portion and at the other end to said wrist member; and a cam member on said extension member and cooperating with said link member whereby said wrist member is rotated in timed relation with the rotation of said torso member.

5. In a device of the character described, a base member; a rod extending from said base member; a torso journaled on said rod above said base member; means for rotating said torso; an extension member mounted on said torso and adapted to rotate therewith, said extension member having a central opening; an arm rigidly connected to said rod in said central opening; a wrist member rotatably carried on said extension member; a link member in said central opening, one end of said link member being connected to said arm for pivotal motion about an axis spaced from the axis of said rod, and the other end of said link member being pivotally connected to the wrist member; a cam follower mounted on said link member; and a cam secured to said extension member within said central opening, said cam cooperating with said cam follower and link member to cause rotation of said wrist member coincident with the rotation of said torso member.

JAMES H. MUNRO.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,803,134	Renn	Apr. 28, 1931
2,513,198	Munro	June 27, 1950