Dec. 6, 1927. 1,651,657

E. T. YOUNG

MECHANICAL ADVERTISING AND DISPLAYING APPARATUS

Filed July 15, 1926 2 Sheets-Sheet 1

FIG: 1.

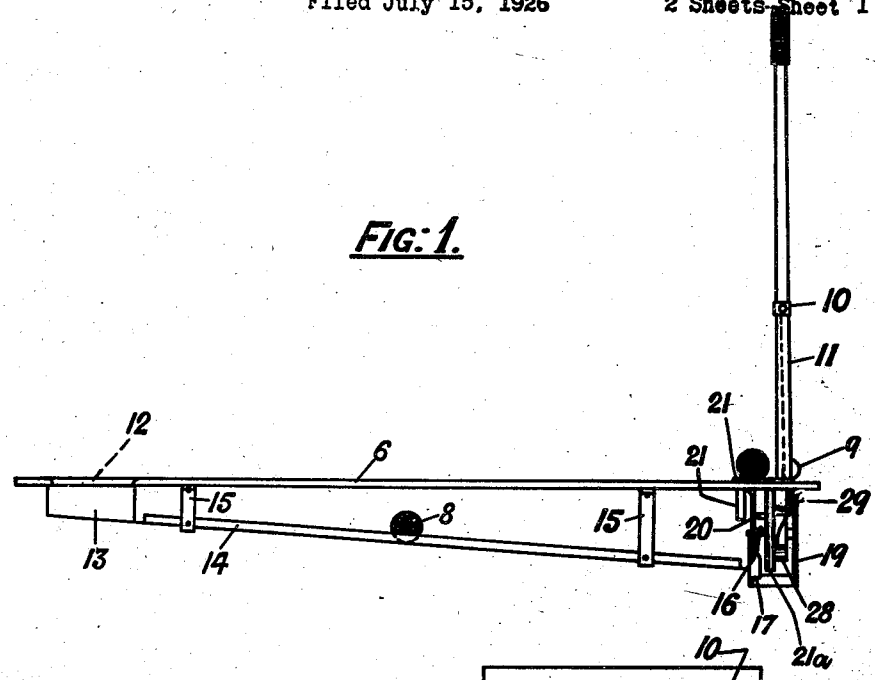
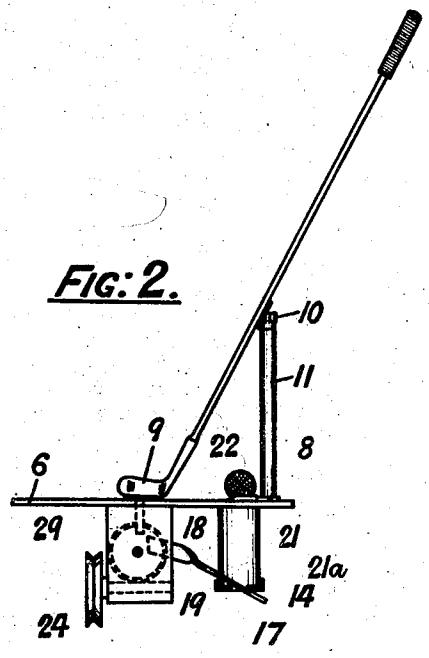


FIG: 2.



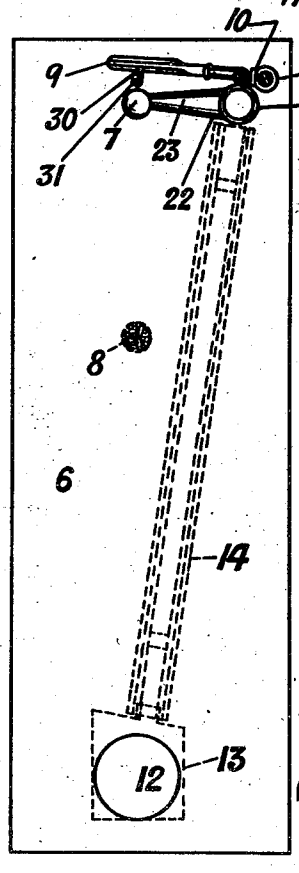


FIG: 3.

Inventor
Edward Thomas Young
By Kenyon & Kenyon
Attys

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E. T. YOUNG

MECHANICAL ADVERTISING AND DISPLAYING APPARATUS

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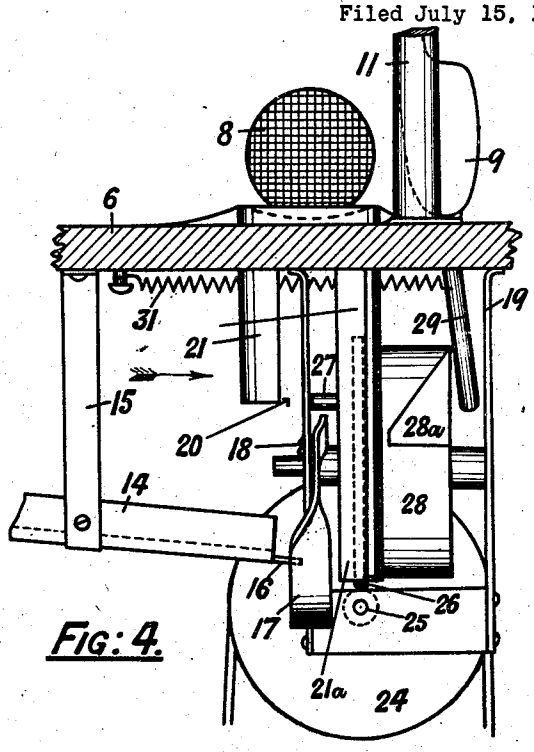


FIG: 4.

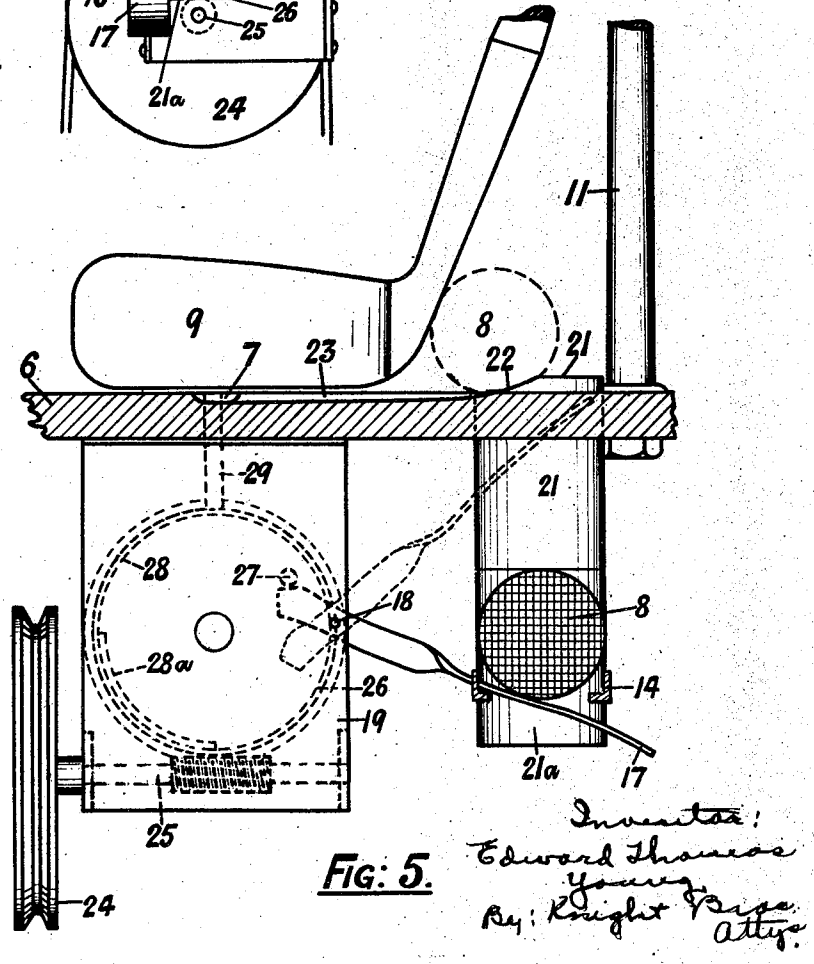


FIG: 5.

Inventor:
Edward Thomas Young
By: Knight Bros.
Attys.

Patented Dec. 6, 1927. 1,651,657

UNITED STATES PATENT OFFICE.

EDWARD THOMAS YOUNG, OF EDINBURGH, SCOTLAND, ASSIGNOR TO R. ANDERSON AND SONS LIMITED, OF EDINBURGH, SCOTLAND, A BRITISH CORPORATION.

MECHANICAL ADVERTISING AND DISPLAYING APPARATUS.

Application filed July 15, 1926, Serial No. 122,705, and in Great Britain September 16, 1925.

This invention relates to that class of apparatus comprising a board, table or like surface over which a ball is adapted to be projected by a movable or pivoted striker, a depression being provided to receive the ball in front of the striker, and an exit aperture being provided in the board, through which the ball may fall on to an inclined chute leading to a device for raising the ball and for ejecting it through an entry aperture in the board, from whence the ball is guided towards the depression in front of the striker.

Such apparatus has been previously designed to simulate a football game, billiards, or other ball game, the striker and ball-raising device being manually actuated.

The present invention is designed to adapt a mechanical apparatus of the class described to advertising and displaying sport balls, golf clubs, hockey sticks and the like.

According to this invention, the apparatus comprises a board, table, platform or like surface over which a ball may be rolled, a support for a movable ball-striking appliance (which may be a pivoted golf club), a depression in the table in proximity to the striker and adapted to receive the ball, an exit aperture in the table, into which aperture the ball may be projected by the striker, an inclined track or chute adapted to lead the ball from below said aperture to a point below an entry aperture in the table, continuously-driven mechanism for automatically raising the ball from the track and for ejecting it through the entry aperture on to the table, a guide-way for guiding the ball from the entry aperture into the depression in front of the striker, and continuously-driven mechanism for automatically actuating the striker.

The accompanying drawings illustrate one embodiment of the invention by way of example.

Fig. 1 is a side view of the apparatus, Fig. 2 is an end view and Fig. 3 is a plan view thereof.

Fig. 4 is a fragmentary side view to a larger scale with the board shown in section.

Fig. 5 is an end view to a larger scale looking in the direction of the arrow shown in Fig. 4.

Referring to the drawings, the numeral 6 designates a cloth-covered board or other suitable surface having a depression 7 to receive the ball 8. The depression 7 constitutes the starting-point from which the ball is struck.

In close proximity to the depression 7 is movably mounted a striker 9, which is represented as consisting of a golf or like club pivoted at 10 upon a fixed upright post 11. At a suitable distance from the depression 7, an exit aperture 12 is provided in the table 6 and this aperture is located over a pocket 13 into which the ball falls when it is projected by the striker into the aperture 12. The pocket 13 communicates with an inclined track or chute 14 which may be suspended from the table 6 by brackets 15. The chute 14 may consist of a pair of spaced angle-section bars connected across at suitable intervals. The lower end of the chute 14 has a projection 16 which supports a pivoted ball-lifter or finger 17 on to which the ball rolls. The lifter 17 is pivoted at 18 in the casing 19 of the driving mechanism and works in slots 20 formed in a tube 21 which projects through the table and forms a guide for the ball as it is raised by the lifter 17. The upper edge of the tube 21 is made concave at 22 so that the ball may roll over the concave edge 22 on to the surface of the table, which has a slight depression 23 therein to form a guide-way for the ball from the tube 21 to the depression 7.

The mechanism for actuating the lifter 17 comprises a driving pulley 24 mounted at one end of a worm shaft 25, whose worm meshes with a worm wheel 26 carrying a crank pin or projection 27 which is adapted to engage the inner end of the lifter 17 and rock it about its pivot 18. The pulley 24 may be driven from an electric motor or other source of power, or the worm shaft 25 may be driven by a spring motor.

The worm wheel 26 also carries a crown cam 28 which engages with a pin or projection 29 fixed to the underside of the striker or golf club 9 and projecting through a slot 30 in the table 6. The pin 29 is held in engagement with the cam 28 by a spring 31.

The operation of the apparatus is as follows:—

The rotation of the driving pulley 24 rotates the worm wheel 26 and crown cam 28 through the worm shaft 25. The cam surface of the cam 28 is so situated in relation to the crank pin 27 that sufficient time elapses after the actuation of the lifter 17 to enable the ball to reach the depression 7 before the notch 28^a in the cam 28 frees the pin 29 and allows the spring 31 to operate the striker or golf club. The ball 8 is then struck by the golf club 9 and projected into the aperture 12, from whence it returns down the chute 14 until it is arrested by the lower end 21^a of the tube 21. In the interval, the lifter 17 has been in the position shown in Fig. 5, so that the ball, as it comes to rest at the lower end of the chute 14, rests upon the lifter 17. The crank pin 27 carried by the continuously rotating worm wheel 26 then coacts with the inner end of the lifter 17 and rocks it upon its pivot, causing the lifter 17 to travel up the slots 20 and lift the ball 8 with it up the tube 21, until the lifter 17 attains the position indicated in dotted lines in Fig. 5. The ball 8 has then been lifted sufficiently to enable it to roll over the upper edge of the tube 21 and down the guideway 23 to the depression 7. Meanwhile, the crank pin 27 clears the lifter 17 and allows the latter to resume its normal position by gravitation. The sequence of operations is then repeated and continues automatically so long as the driving pulley 24 is rotated.

Claims:

1. A mechanical advertising and displaying apparatus comprising a rigid substantially horizontal surface, a striker movable over the said surface, a depression in the said surface in proximity to the striker, an exit aperture in said surface, an inclined chute below said surface and adapted to lead a ball from below the exit aperture to a point vertically below an entry aperture in the said surface, continuously-driven mechanism for autimatically raising the ball and for ejecting it through the entry aperture, a guideway for the ball from the entry aperture to the depression, and continuously-driven mechanism for automatically actuating the striker.

2. A mechanical advertising and displaying apparatus comprising a rigid surface, a spring-controlled club, a fixed upright support to which said club is pivoted, a continuously-driven cam, a projection on the club cooperating with said cam, a depression in said surface in proximity to the club, an exit aperture in said surface, an inclined chute adapted to lead a ball from below the exit aperture to a point vertically below an entry aperture in the said surface, continuously-driven mechanism for automatically raising the ball and for ejecting it through the entry aperture, and a guideway for the ball from the entry aperture to the depression.

3. A mechanical advertising and displaying apparatus comprising a rigid substantially horizontal surface, a striker movable over said surface, a depression in said surface in proximity to the striker, an exit aperture in said surface, an entry aperture in said surface, a vertical tube below said entry aperture, an inclined chute below said surface for leading a ball from below said exit aperture to the bottom of said tube, an extension of said tube for arresting the ball at the lower end of the chute, automatic continuously-driven mechanism for periodically and automatically actuating the striker, and automatic mechanism for raising the ball through the tube prior to each actuation of the striker.

4. An advertising and displaying device comprising a plane surface, an upright secured thereto, a striker pivoted to said upright, a depression in said surface in front of the striker, entry and exit apertures in said surface through which a ball may pass, a vertical tube below the entry aperture, an inclined chute leading from beneath the exit aperture to said tube, a stop for arresting the ball at the lower end of the chute, a pivoted ball-lifter cooperating with said tube, continuously-driven mechanism for automatically and periodically actuating said lifter, a guideway for the ball from the entry aperture to the depression and continuously-driven mechanism for automatically and periodically actuating the striker.

5. An advertising and displaying device comprising a plane surface, an upright secured thereto, a striker pivoted to said upright, a depression in said surface in front of the striker, entry and exit apertures in said surface through which a ball may pass, a vertical tube below the entry aperture, an inclined chute leading from beneath the exit aperture to said tube, a stop for arresting the ball at the lower end of the chute, a pivoted ball-lifter cooperating with said tube, a continuously-driven crown cam controlling the striker, and a continuously-driven crank-pin for actuating the lifter, said crank-pin being so related to the cam that a time interval elapses after raising the ball to enable it to reach the depression before the striker is actuated.

6. An advertising and displaying device comprising a board having a depression and two apertures therein, an upright secured to the board, a striker pivoted upon said upright, a pocket below one aperture, a tube below the other aperture, an inclined chute suspended from the underside of the board and leading downwards from said pocket to said tube, a projection on the lower end of said chute, a pivoted finger adapted to rest

on said projection and to work in slots in said tube, a ball guideway from the tube to the depression in the board, a driving shaft, gearing driven thereby, a crank-pin driven by said gearing and adapted to rock said lifter, a crown cam driven from said shaft, a projection on the striker protruding through a slot in said board, and a spring holding said projection in engagement with said cam.

The foregoing specification signed at Edinburgh, Scotland, this 28 day of May, 1926.

EDWARD THOMAS YOUNG.