Aug. 16, 1960 W. T. DAVIS 2,949,305

TARGET DEVICE

Filed June 19, 1958 2 Sheets-Sheet 1

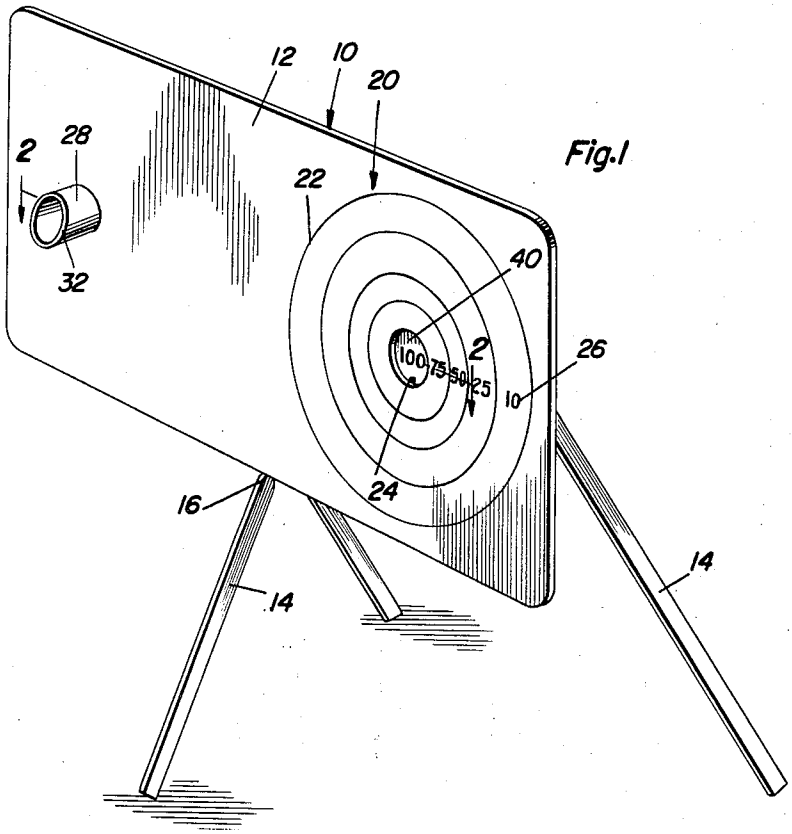



Fig.1

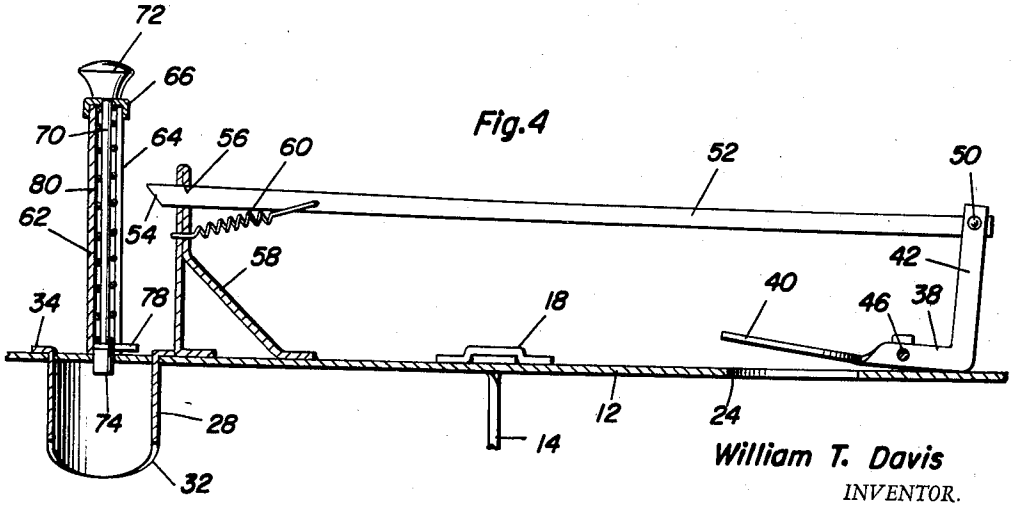



Fig.4

William T. Davis
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Aug. 16, 1960 W. T. DAVIS 2,949,305

TARGET DEVICE

Filed June 19, 1958 2 Sheets-Sheet 2

Fig.2

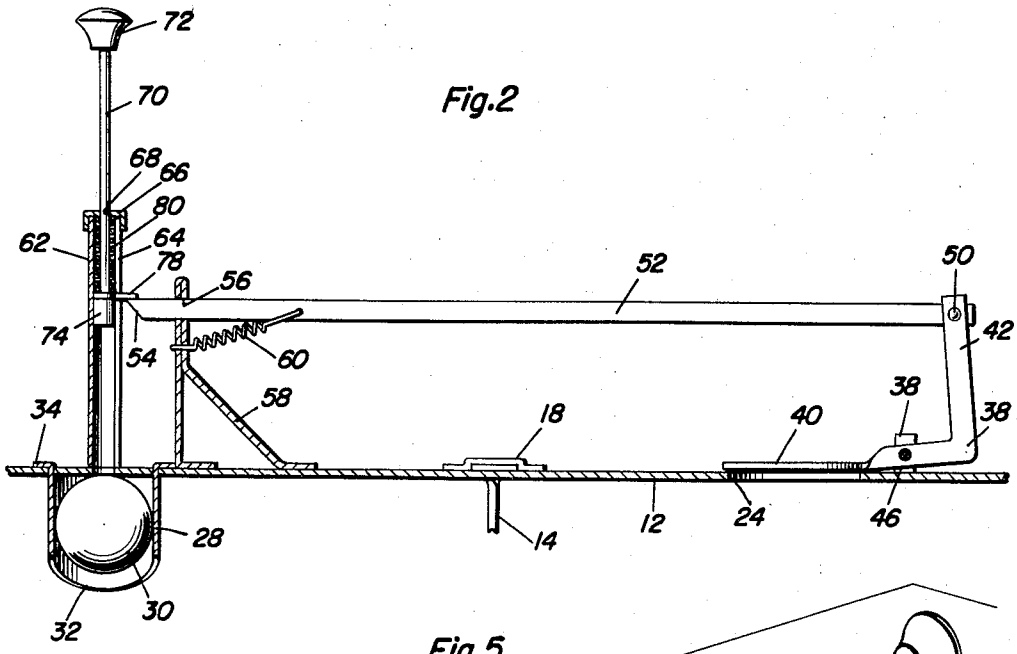



Fig.5

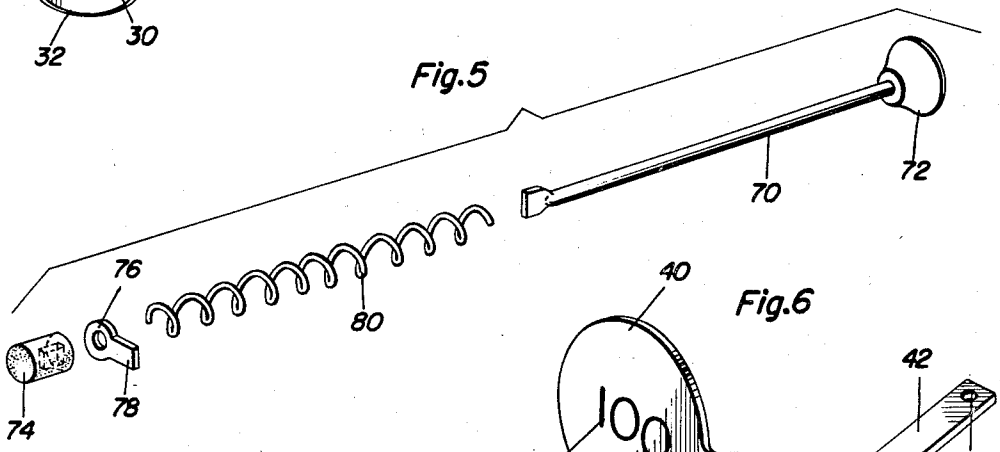
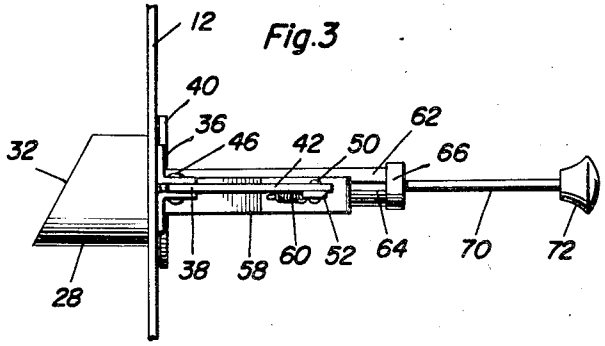



Fig.6




Fig.3




William T. Davis
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 2,949,305 Patented Aug. 16, 1960



2,949,305

# TARGET DEVICE

William T. Davis, 3258 Wightman St., San Diego, Calif.

Filed June 19, 1958, Ser. No. 743,057

1 Claim. (Cl. 273—102.1)

The present invention generally relates to an amusement device and more particularly to a target device for providing a mechanism for projecting a projectile towards a person aiming a projectile at a target with the projecting means being actuated in response to proper engagement of the projectile aimed by a player with the center of a bull's-eye target.

The primary object of the present invention is to provide a target device incorporating in its construction a bull's-eye target having a movable plate forming the center thereof for receiving a projectile having sufficient mass to move the plate when the same is projected and engaged with the center of the bull's-eye by a player with engagement of the movable plate effecting actuation of a projection means for projecting a lightweight projectile back towards the player or person initially projecting a projectile at the movable center of the target whereby the projection apparatus and the projectile projected thereby is relatively light and may be caught by the player.

A further object of the present invention is to provide a target device having a projector associated therewith together with guide means for guiding movement of a lightweight projectile with the projector including a spring urged plunger which is held in retracted position by a catch with the movable plate of a bull's-eye releasing the plunger for projecting the lightweight projectile when the center of the target is engaged.

A further object of the present invention is to provide a target device which is extremely simple in construction, highly amusing in its operation, well adapted for use as an amusement device and relatively inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the target device of the present invention;

Figure 2 is a longitudinal, plan sectional view taken substantially upon a plane passing along section line 2—2 of Figure 1;

Figure 3 is a partial side elevation of the target device;

Figure 4 is a sectional view similar to Figure 2 with parts thereof omitted and illustrating the plunger in position after it has been released by engagement of the target plate with a projectile or missile having sufficient mass for releasing the plunger;

Figure 5 is an exploded group perspective view illustrating the construction of the plunger and the spring means for operating the same; and

Figure 6 is a perspective view of the target plate and bell crank rigid therewith.

Referring now specifically to the drawings, the numeral 10 generally designates the target device of the present invention which includes an enlarged generally rectangular board 12 disposed in a vertical position and



supported in such a vertical position by three legs 14 each of which may have their upper end twisted as indicated by the numeral 16 for engagement against the rear surface of the board 12 and for vertical sliding engagement with a loop 18 on the rear surface of the board 12. Two of the legs 14 project rearwardly while the center of the legs 14 projects forwardly thus providing a stand for supporting the board 12 in a vertical position.

Disposed adjacent one end of the board is a bull's-eye target generally designated by the numeral 20 including concentric division lines 22 with the center of the bull's-eye target 20 being defined by an enlarged opening 24. Numerical indicia 26 may be disposed between adjacent concentric division lines for indicating a score value and the various areas may be distinguishably colored if desired. Mounted adjacent the other end edge of the board 12 is a cylindrical guide 28 for receiving a hollow spherical ball 30 such as those normally used in ping pong or table tennis and the outer end of the tubular guide 28 is inclined as designated by the numeral 32 and the inner end thereof is provided with projecting tabs 34 which extend through the board 12 and are bent outwardly for locking the tubular guide 28 to the front face of the board 12 with the tubular guide 32 being generally in horizontal alignment with the aperture 24 and will effectively guide the ball 30 back towards the board 12.

Extending rearwardly from the board 12 is a pair of right angular brackets 36 pivotally supporting one end of an L-shaped member or bell crank member 38 having a plate 40 on one end thereof and an elongated leg 42 forming the other end thereof. The plate 40 is disposed in alignment with and immediately rearwardly of the aperture 24 and is provided with numerical indicia 44 thus forming a center for the bull's-eye target 20 in the form of a movable plate which will be moved to the pivotal support of the bell crank member 38 on the brackets 36 by a pivot pin 46. Thus, a projectile such as a suction cup on a stick which may be projected by any suitable spring gun, will pivot the movable plate 40 and swing the leg 42 about the pivot pin 46 due to the mass of the projectile which has been aimed by a player at a remote point. Thus, when the player at a remote point has accurately aimed the projectile, the plate 40 will be engaged by the projectile and due to the mass thereof, the plate 40 will be swung inwardly from the position illustrated in Figure 2 to the position illustrated in Figure 4 and thus will cause swinging movement of the leg 42 in a corresponding manner. The free end of the leg 42 is provided with an aperture 48 for receiving a pivot pin 50 connecting the leg 42 to an elongated latch member 52 having an inclined end edge 54 with this end portion of the latch member 52 being slidably received in an aperture 56 in a supporting bracket 58 extending rearwardly from the board 12. A spring 60 interconnects the latch member 52 and the bracket 58 for urging the latch member 52 in a direction that the plate 40 will be resiliently urged against or towards the rear surface of the board 12.

Extending rearwardly from and in rigid relation to the board 12 is a tubular sleeve 62 having a longitudinal slot 64 therein and provided with a closure cap 66 on the outer end with the closure cap 66 having an aperture 68 slidably receiving a rod 70 having a handle 72 on one end thereof and a plunger 74 on the other end thereof. A washer-like member 76 is mounted on the rod 70 against the inner end of the plunger 74 and provided with a projecting lug 78 which projects outwardly through the slot 74 for engagement with the latch member 52. A compression coil spring 80 is disposed between the cap 66 and the washer member 76 so that when the handle

72 is pulled outwardly, the spring 80 will be compressed and the lug 78 will urge the latch member 52 away from the tubular member 62 until such time as the lug 78 will engage the top surface of the latch member 52 as illustrated in Figure 2 at which time the latch member 52 will retain the rod 70, plunger 74 and lug 78 in retracted position and the spring 80 compressed due to the rigid connection between the plunger 74, washer 76 and rod 70. With the device in the condition illustrated in Figure 2 and the hollow spherical ball 30 positioned in the guide member 28, upon contact of the plate 40 with a projectile having considerable mass, the plate 40 will be moved inwardly due to the projectile engaging the same thus pivoting the bell crank 42 and moving the latch member 52 to the right as illustrated in Figures 2 and 4 thus releasing the plunger 74 so that the spring 80 may rapidly urge the same into engagement with the spherical member 30 thus projecting the spherical ball member towards the player that has originally projected the projectile which engaged the target plate 40.

By employing various rules such as requiring the player to catch the hollow projectile 30, many interesting games may be devised.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

A target device comprising a generally vertically disposed target plate having greater horizontal width than vertical height, a bull's-eye target at one end of the target plate, said bull's-eye target being defined by a plurality of concentrically spaced rings, said plate having an aperture therein defining the center of the bull's-eye target, a bellcrank having the apex portion pivotally supported from the rear of the plate, a circular plate on the end of one leg of said bellcrank and forming a closure for said aperture whereby a projectile passing through the opening will impinge against the circular plate and force it rearwardly thereby pivoting said bellcrank, the other



leg of said bellcrank extending rearwardly from the target plate, an elongated latch bar pivotally connected to the outer end of the other leg of said bellcrank and extending toward the other end of said target plate in generally parallel relation to the rear of the target plate, guide means mounted on the rear of the target plate and slidably receiving the end portion of the bar remote from the bellcrank, spring means interconnecting the guide means and the latch bar and urging the latch bar towards the other end of said target plate thereby maintaining the circular plate against the rear of the target plate, the end of said bar adjacent the guide means being inclined, said target plate having an opening therein adjacent the other end and generally in horizontal alignment with the aperture, a tubular member mounted on the target plate and extending forwardly therefrom, a lightweight spherical projectile disposed in said tubular member in alignment with the opening, a tubular housing mounted on the target plate and extending rearwardly therefrom in alignment with the opening, a plunger slidably mounted in said housing, spring means interconnecting said housing and plunger for urging the plunger towards said projectile, a handle on said plunger for retracting the plunger and tensioning said spring means, a laterally extending lug rigidly mounted on said plunger, said housing having a slot slidably receiving said lug, said inclined end of the latch bar being disposed in the path of movement of the lug when the plunger is retracted thereby camming the latch bar longitudinally until the lug passes outwardly beyond the latch bar whereby the latch bar will then retain the plunger retracted until impingement of a projectile on the circular plate moves the circular plate and latch bar for releasing the plunger and projecting the spherical projectile from the tubular member.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 691,299 | Stevens | Jan. 14, 1902 |
| 959,710 | Burbank | May 31, 1910 |
| 1,242,942 | Hunsberger | Oct. 16, 1917 |
| 2,469,061 | Barto | May 3, 1949 |
| 2,552,446 | O'Conner | May 8, 1951 |