Oct. 15, 1935. H. G. BREITENSTEIN 2,017,274

SWITCH DEVICE

Original Filed April 5, 1934

Fig. 1.

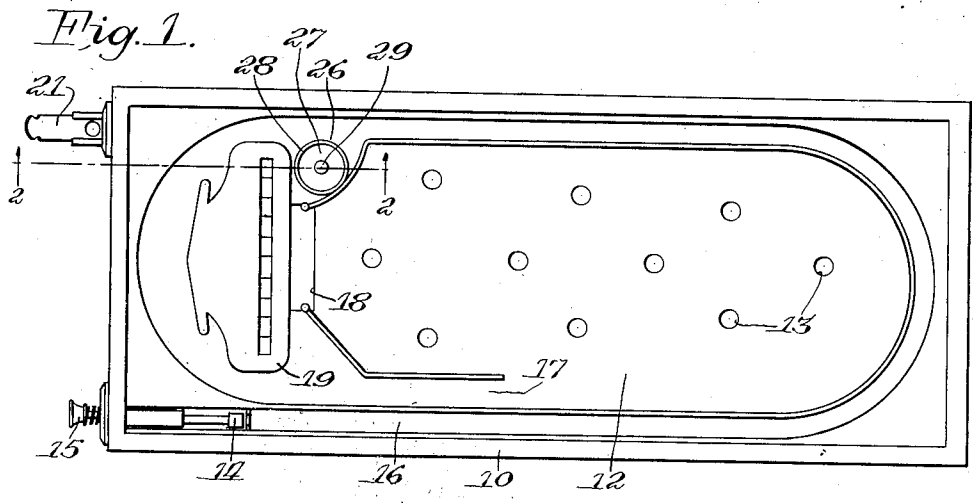


Fig. 2.

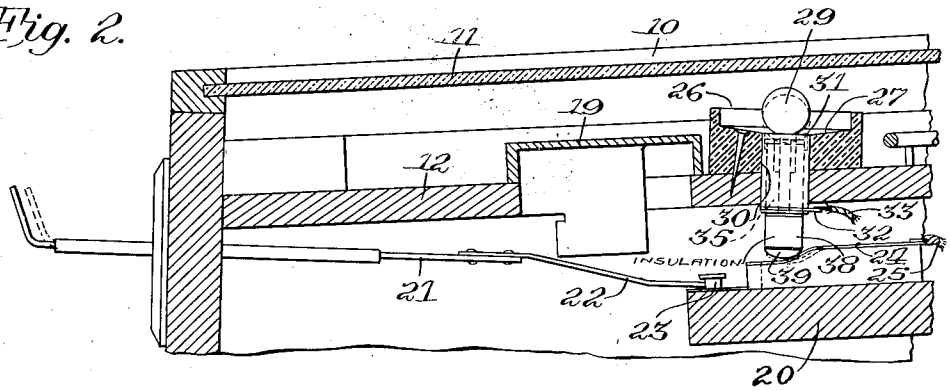


Fig. 4.

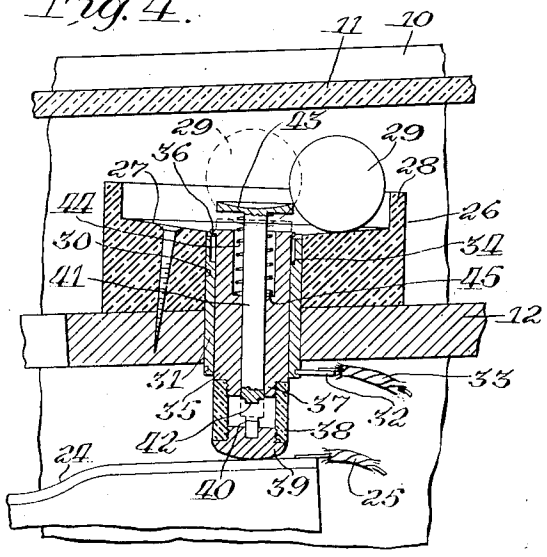
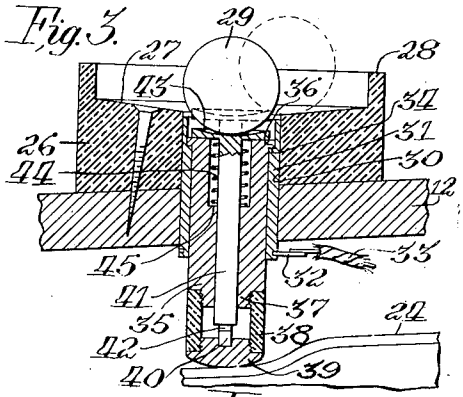


Fig. 3.



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UNITED STATES PATENT OFFICE

2,017,274

SWITCH DEVICE

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Original application April 5, 1934, Serial No. 719,075. Divided and this application September 5, 1934, Serial No. 742,775

2 Claims. (Cl. 200—52)

The invention relates to a tell-tale device for amusement and skill games, especially of the coin released, pin and ball type. More particularly the invention relates to an improved switch associated with the said tell-tale device. The present application is a divisional application of my pending application, Serial Number 719,075, filed April 5, 1934, for a Tell-tale device for a game of skill.

These amusement devices comprise an inclined play board having holes through which balls may fall that are projected over the board. The holes are usually given definite scoring values, and if a sufficiently high total score is attained, it is common for the owner of the amusement device to reward the player by giving him some sort of an award. In fact, some of these amusement devices are provided with a dispensing mechanism which is automatically operative to dispense a reward upon the attainment of certain score totals. In practice it is found that because of these inducements to play, unscrupulous persons try dishonestly to lodge balls in the scoring holes by tilting the game board for the purpose of directing the balls into the desired holes. Tell-tale devices have therefore been provided to make the play cheat proof, such devices serving, when the game board is tilted, to make the scoring and pay off mechanism inoperative.

The main object of the present invention is to provide an improved tell-tale device for the purpose stated, which will, without question, make the amusement game, absolutely cheat proof from the standpoint of tilting.

Another object is to provide a tell-tale device which will be of simple construction that cannot get out of order.

Another object is to provide a tell-tale device in an electric circuit and operative to control the operation of an auxiliary electric pay-off dispenser.

Further objects will be apparent to those skilled in the art, as the disclosure is more fully made.

Briefly, these desirable objects are attained in the example of the invention herein chosen for purposes of illustration, by providing a cylindrical unit comprising a horizontal dish-shaped member in the center of which is arranged a vertical plunger, the unit being secured to the game board and the plunger being slidably mounted therethrough. The plunger carries a spring pressed ball supporting supplementary plunger. The device is set through the operation of the coin release mechanism, which causes the ball to seat on the supplementary plunger in a position raised somewhat above the level of the bottom of the dish. As long as the ball is so seated the circuit is closed and the game mechanism is in condition for honest playing. Should, however, the board be tilted, the ball dislodges from its seat on the supplementary plunger causing the said plunger to be raised by its spring to open the electric circuit to make the pay off of the game inoperative. To reset the ball on the supplementary plunger to close the circuit again, the coin release slide must receive a coin, the movement of the slide being utilized to allow the main plunger to drop sufficiently to allow the dish to cause the ball to roll onto its normal seat on the supplementary plunger. Then as the coin slide retracts the plunger raises to seat the ball in its normal position again. So much will suffice to give a general idea of the structure, which has been shown in detail in the accompanying sheet of drawings, wherein:

Figure 1 is a general plan view of an amusement game of the type with which the improved tell-tale device may be used;

Figure 2 is a longitudinal cross sectional view through the lower, or player end of the game, showing the tell-tale device and the coin released parts that cooperate therewith, the section being substantially along the line 2—2, appearing in Figure 1;

Figure 3 is a longitudinal cross sectional view centrally through the tell-tale device showing the position of the ball on its rest when the coin release slide is pushed in; and,

Figure 4 is a similar sectional view, on an enlarged scale with the ball positioned as it would be after the game has been tilted.

As shown, the amusement game herein illustrated comprises a box 10 closed at its top in the usual way by a glass panel or cover 11. A game board 12 is mounted in the box and slopes downwardly toward the front or player end of the game, said board being provided with a plurality of traps, in the form of holes 13.

One side of the game carries a ball projector or shooter 14, operable by a handle 15, to shoot balls, one at a time, around an oval passage or track 16, the balls emerging at 17 onto the inclined board. In the usual way the balls gravitate down the sloped board into the holes 13. Spent balls missing the holes 13 are received by a hole 18 adjacent the score registering device 19.

Underneath the play board is a second sloping board 20 having means of any appropriate form, not important in this disclosure, to direct balls

falling through the holes 13 to the registering device 19 to operate the same. The board 20 at its lower end terminates under the device 19 and in a well known manner by means not shown, temporarily collects the played balls until such time as the panel 20, which by the way is slidingly mounted, is pushed, or slid forwardly to release the accumulated balls, to cause them to drop into a chute, not shown, that leads them to a ball lifter, not shown, in turn operable to elevate the balls, one at a time, in position to be shot by the shooter 14, all as well known in this art.

A coin release slide 21 is slidably carried in the front wall of the box 10, said slide having an extension 22 to abut a post 23 on the panel 20. When the slide 21 is released by the proper coin, it is pushed rearwardly into the box, causing the extension 22 to abut the post 23 and slide the panel 20 back, or to the right as shown in the drawing. The front, left hand corner of the panel 20 carries a cam plate presenting a curved cam track 24 to which is connected an electric wire lead 25.

The tell-tale device, of the present invention is located on and secured to the top side of the play board 12, and comprises a circular member 26 made of insulation material. Said member is located above the cam track 24, and is dished out to provide a concave well 27 bounded by a shallow peripheral upright wall 28. The concave dish part is horizontally disposed so that a metal ball 29 therein always tends to roll toward the center of the well. It is of interest to note that the ball is of a larger diameter than the distance between the top of the wall 28 and the glass cover 11, so that the ball can never be forced out of the well.

The member 26 is provided with a central, vertical bore 30 in which is tightly press-fitted a vertical, metal sleeve 31 which extends through and slightly below the board 12, there being a contact 32 and an electric circuit wire 33 connected to said lower end of the sleeve 31. Just below its upper end the sleeve 31 is relieved to form a circular, horizontal shoulder 34.

Slidably arranged in this sleeve 31 is a vertical metal plunger member 35 which at its upper end has a horizontal flange 36 which at times seats or rests on the shoulder 34. The lower end of this plunger is formed as a reduced, threaded extension 37 to which is screw threaded a sleeve 38 of insulating material, said sleeve 38 in turn at its lower end, carrying a metal cap 39, the bottom of which is rounded to ride on the cam track 24. The cap 39 carries a contact 40.

The plunger 35 is provided with a central vertical bore in which is slidably fitted a metal, supplementary plunger 41, the lower end of which is reduced to form a contact 42 adapted at times to engage the contact 40. The top end of this second plunger 41 is formed with a concave ball seat head 43, there being a spring 44 between the head and a shoulder 45 formed in the plunger 35, said spring encircling the stem 41 in the manner shown.

In the normal play of the game, the ball 29, which acts as a weight, rests on the head 43 overcoming the force of the relatively light spring 44 to move the plunger stem 41 down causing the contact 42 to engage the contact 40. Current then flows through wire 33, clip 32, sleeve 31, stem 41, contacts 42, 40, cap 39, track 24 and wire 25 to maintain a closed circuit to permit operation of the auxiliary reward pay out mechanism, not shown. At such normal time, the panel 20 is in its forward position, and the high part of the cam track 24 holds the main plunger 35 up, so that the head 43 is in the dotted line position shown in Figure 4, where it will be seen that said head is at a normal level slightly above the bottom of the concave dish 27.

If a player now attempts to direct balls from the shooter to the high score value holes 13 by tilting the box 10 and board 12, then the tell-tale ball 29 rolls off the head 43 to the full line position of the ball in Figure 4, where it lodges on the concave dish 27 and cannot roll back onto the seat 43 because the spring 44 became instantly effective to push the head 43 up to the full line position shown in Figure 4. This up movement of the stem 41 has separated the contacts 42, 40 to open, or break, the circuit heretofore described, and as a result the pay off mechanism in said circuit becomes inoperative. Thus, the attempt at cheating is of no avail. The remaining balls to be shot by the projector 14 can still be played but the pay off mechanism cannot now work. In the meanwhile the spring 44 holds the head 43 at such a high level that it is impossible to roll the ball 29 back onto the rest 43 by further tilting of the box 10.

To reset the game for normal play, the player must insert another coin in the slide 21, to permit said slide to be pushed into the box. This movement of the slide as heretofore described pushes the panel 20 to the right as herein illustrated, causing the lower end of the heavy plunger 35 to ride to the low end of the cam track 24 as shown in full lines in Figures 2 and 3. This permits the ball 29 to gravitate down the sloped bottom of the dish 27 from the dotted line position in Figure 3 to the full line position in said figure, the ball 29 now resting on the head 43. The head 43 in this position has its flange 36 resting on the shoulder 34 to limit the down movement of the plunger 35. The weight of the ball 29 overcomes the spring 44 and the contacts 42, 40 are closed. When the slide 21 is released the panel 20, as is the practice in games of this kind, moves automatically to the left. During such movement the cam track 24 engaging the cap 39 pushes the plunger 35 up to the starting position shown in dotted lines in Figure 4. The high part of the track 24 thus holds the main plunger up, and the weight of the ball 29 on the rest head 43 holds the supplementary stem plunger 41 down to close the contacts 40, 42.

From this disclosure it will now be appreciated that an improved, simple, fool-proof anti-cheat device has been provided which makes efforts at tilting the game futile.

It is the intention to cover all such changes and modifications of the illustrative example of the mechanism herein disclosed, which do not depart from the spirit and scope of the invention as indicated by the definitions thereof comprising the appended claims.

What is claimed is:

1. A circuit maker and breaker device for a substantially horizontally disposed tiltable game board, said device including an insulated well member carried on the board and having a dished upper surface with its lowest point at the center thereof, a vertical central bore being formed through the well member and board, a sleeve in said bore forming a guide for a main plunger mounted for vertical sliding movement in said sleeve, means to limit the downward movement of the plunger in the sleeve, the lower end of said

plunger carrying an insulator sleeve for mounting a cap in spaced relation to the main body portion of said plunger, a contact for a circuit carried by the cap, an auxiliary plunger slidably carried for vertical movement in the main plunger, the lower end of the auxiliary plunger carrying a contact to abut the contact on the cap, a spring carried within the main plunger to press a head formed on the upper end of the auxiliary plunger to raise the latter whereby to hold the contacts separated, a free ball weight within the well member to lodge on the head to lower the auxiliary plunger relative to the main plunger to close the contacts when the main plunger is in a lowered position, the sleeve being wired in the circuit with said cap contact, means for raising or lowering both plungers as a unit said ball leaving the head when the board is tilted causing the spring to raise the auxiliary plunger independently of the main plunger to separate the contacts and break the circuit.

2. A circuit maker and breaker device for a substantially horizontally disposed tiltable game board, said device including an insulated well member carried on the board and having a dished upper surface with its lowest point at the center thereof, a vertical central bore being formed through the well member and board, a sleeve in said bore forming a guide for a main plunger mounted for vertical sliding movement in said sleeve, means to limit the downward movement of the plunger in the sleeve, the lower end of said plunger carrying an insulator sleeve for mounting a cap in spaced relation to the main body portion of said plunger, a contact for a circuit carried by the cap, an auxiliary plunger slidably carried for vertical movement in the main plunger, the lower end of the auxiliary plunger carrying a contact to abut the contact on the cap, said contacts being located below said game board, said auxiliary plunger including a horizontal head, the upper surface of which is concaved, a spring located within the main plunger encircling the auxiliary plunger and pressing against the head to raise the auxiliary plunger relative to the main plunger whereby to hold the contacts separated, a free ball within the well member serving as a weight to lodge on the concave head to lower the auxiliary plunger relative to the main plunger to close the contacts when the main plunger is in a lowered position, the sleeve being wired in the circuit with said cap contact, means for raising or lowering both plungers as a unit, said ball leaving the head when the board is tilted causing the spring to raise the auxiliary plunger independently of the main plunger to separate the contacts and break the circuit.

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