(No Model.) 2 Sheets—Sheet 1.

E. C. JONES.

COIN ACTUATED BILLIARD MARKER.

No. 383,228. Patented May 22, 1888.

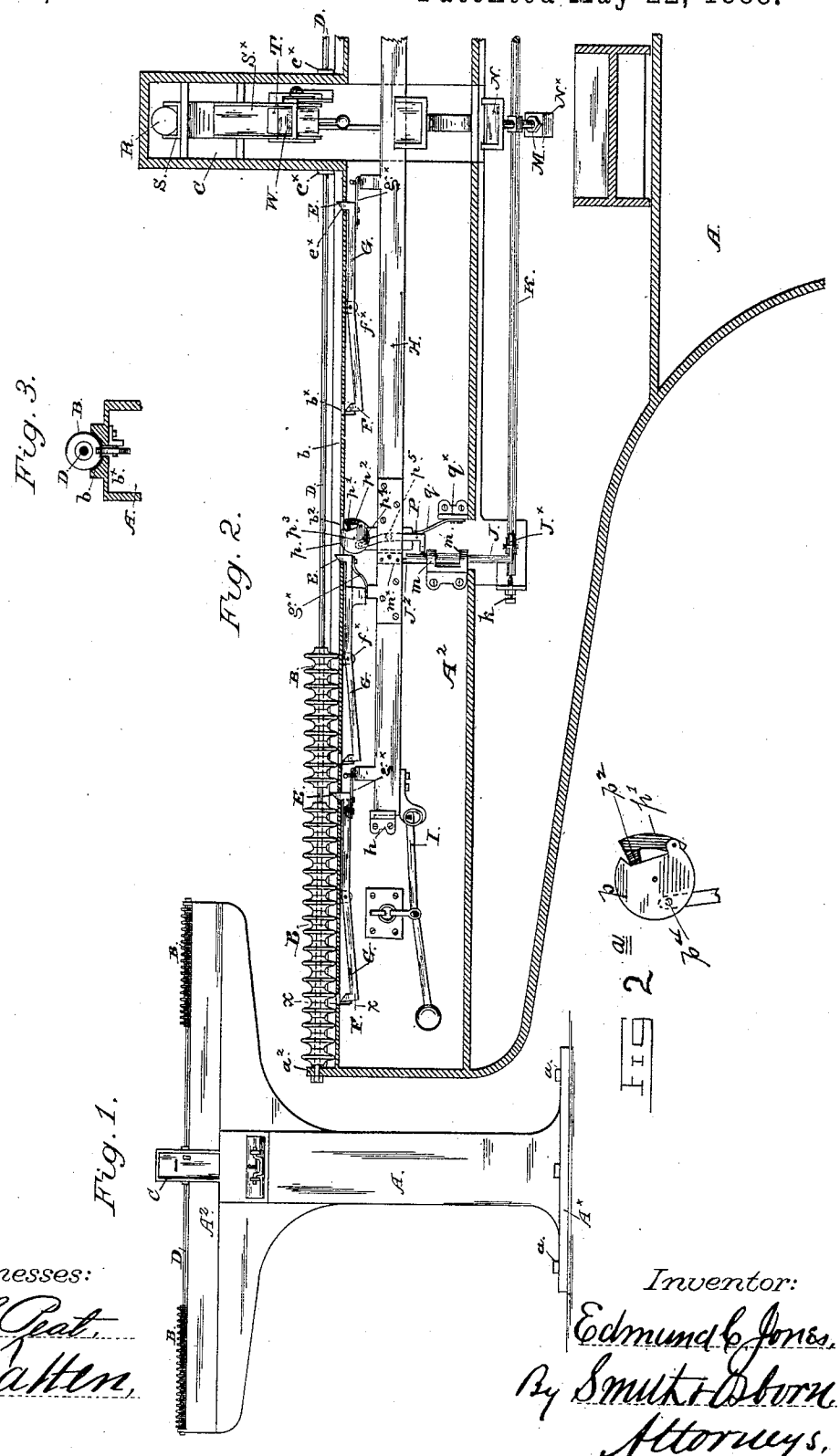


Fig. 1.

Fig. 2.

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

E. C. JONES.

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Fig. 4.

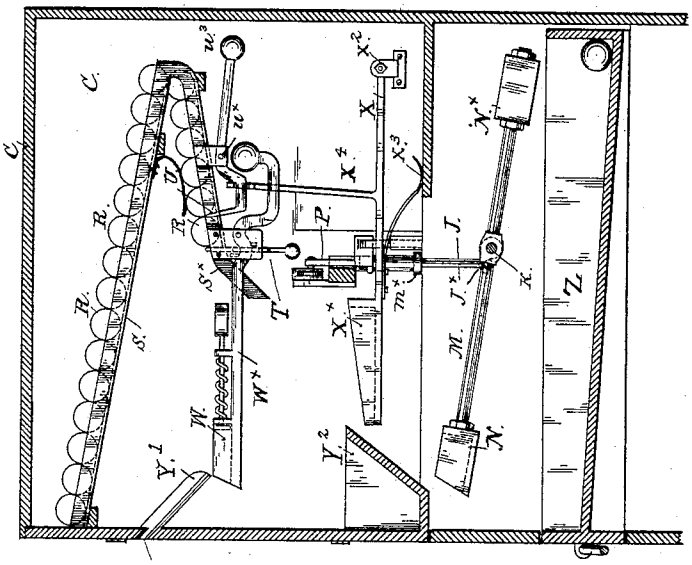


Fig. 5.

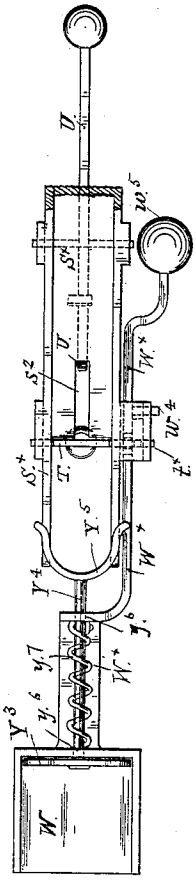


Fig. 6.

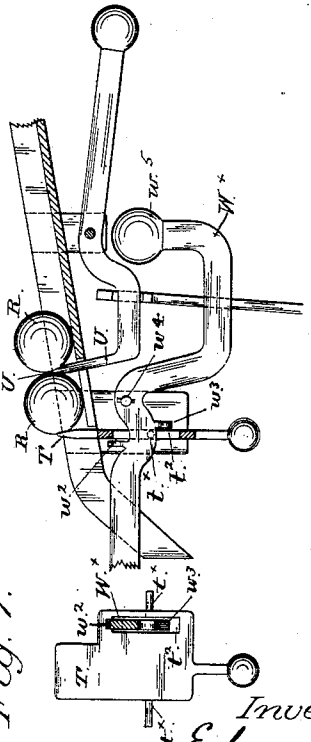


Fig. 7.

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UNITED STATES PATENT OFFICE.

EDMUND C. JONES, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO WILLIAM J. GLEASON, OF SAME PLACE.

COIN-ACTUATED BILLIARD-MARKER.

SPECIFICATION forming part of Letters Patent No. 383,228, dated May 22, 1888.

Application filed December 27, 1887. Serial No. 259,186. (No model.)

To all whom it may concern:

Be it known that I, EDMUND C. JONES, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Coin-Actuated Billiard-Markers, of which the following specification is a full, clear, and exact description.

The object of my invention is to produce for use in billiard-games and other like games to mark the points made by the players a marking or registering apparatus in which the markers or counters are locked as they are moved in one direction in the game, and cannot be moved backward or used over again until a coin of suitable denomination is deposited in the apparatus, such locking means or device being controlled and the counters released for use by coin-actuated mechanism of novel construction and operation.

My improvements will be found applicable, also, to other purposes and uses where points or marks are to be registered against coins or counters deposited in a closed receptacle.

The improvements constituting my said invention consist of billiard-marking apparatus of novel construction having a string of buttons or counters controlled by locking devices so operating that the counters are movable for use in one direction only, and cannot be moved back until the locking device releases them. In combination with such locking device a coin-actuated mechanism acts upon it when set in motion by a piece of coin of a given size and weight to release the counters, so that they can be moved back to the first position for use again.

The improvements embrace, also, a novel construction and combination of coin-actuated mechanism for setting in motion by a coin of any given size and weight a counting or indicating apparatus, all as hereinafter more particularly set forth.

The following description fully explains the nature of my said improvements and the manner in which I construct a billiard-game marker in accordance therewith, the accompanying drawings being referred to by figures and letters.

Figure 1 is a front elevation of my improved billiard-marker. Fig. 2 is a one-half view in front elevation and longitudinal section on a larger scale, showing the details of the locking devices inside and the coin-actuated mechanism that controls them. Fig. 2^a is an enlarged detail view of the tripping device. Fig. 3 is a cross-section through $x\,x$, Fig. 2. Figs. 4, 5, 6, and 7 are detail views of the coin-actuated mechanism, Fig. 4 being a vertical section taken through the case from front to rear, and Fig. 5 a top view, on a larger scale, of the coin-actuated lever that controls the discharge of the balls from the trough. Fig. 6 is a side elevation of the lower end of the ball-trough and the gate and connections of the coin-actuated lever that control and lock this gate. Fig. 7 is a front view of the gate, the portion of the lever that passes through it being shown in section.

A, Fig. 1, represents a pedestal with a flanged base, $A^\times$, to rest on the floor and be fastened, if necessary, by screws *a a*.

A^2 is a cross-piece extending laterally and with equal projection upon the top of the pedestal, and either formed with it in one structure or properly secured across the top. This part A^2 is a long narrow box with sufficient space inside to contain the parts of the locking mechanism, and with a run or way, *b*, of concave form in cross-section, on the top. The run is divided into two parts of equal length by the case or compartment C, that incloses the coin actuated mechanism and is set in the center directly over the pedestal.

B B are the buttons or markers, and D is a rod on which they are strung. The rod is fixed at one end in the ear a^2 at the end of the frame, and at the other end in a socket, $c^\times$, on the side of the case C. The rod D is supported at these two points directly over the run *b*, and the buttons B B sliding on the rod are held and supported in such position that they rest against and slide along the bottom of the run.

The construction and operation of the parts and mechanism on one arm or half of the apparatus are the same as those on the other half, and the description of all parts on one side of the case will therefor answer for the opposite side. The buttons provided on each rod are sufficient in number for indicating the points

of a game, and one player uses one side, while the other player uses the buttons on the opposite side or half of the apparatus.

E E F F are two sets of dogs on the ends of lever-arms pivoted at f in ears f^* on the under side of the run, and working in slots $b^\times$ through the bottom of the run. One face of the dog is beveled, as shown at $e^\times$, so that when it is thrown up through the slot the buttons, in striking against the inclined face, will press down the dog when moved along the rod D in one direction, but will be stopped by the vertical face of the dog if moved backward.

The dog E is mounted on one arm of the lever G and the dog F on the opposite arm of the lever. This latter arm is bent down to stand at an angle to the other arm, so that when one dog stands above the bottom of the run the other dog sets below it clear of the buttons. The inclined face of the dog E is presented toward the outer end of the run, and the dog F has its inclined face standing toward the opposite end. In the present construction I have arranged three sets of these stops or dogs and levers in the run; but this number can be increased or diminished, as circumstances may require.

H is a balance-bar setting in guides h h at the ends, in which it is movable up and down.

I is a balance-lever at the end on which the bar is hung. There is a similar balance at the opposite end of the bar. Connected with this bar is a rock-shaft, K, that is operated on and receives movement from the mechanism in the compartment C, and is the principal mover of the locking device before described. The rock-shaft is mounted on pivot-screws k k, and is connected to the upright slide-bolt J by a short crank-arm, $J^\times$, that is fixed on the shaft and has an eye or loop on the end to take the bent end of the bolt. Guides m m support this bolt. The balance-bar extends along under all the stop-carrying levers, and the bolt J is attached to it at $m^\times$. A similar bolt and connection balanced bar is employed at the other end of the rock-shaft; but only the mechanism on one side of the apparatus is shown in Fig. 2 of the drawings, as the other side is a duplication of it.

M is a balance-lever fixed on the rock-shaft in the center and directly under the compartment C, and carrying on the outer end a tray or receptacle, N, with an open end. The weight $N^\times$ on the opposite end of that lever overbalances the tray end to hold up the balanced bar. In this position the bar keeps up the levers G, so that the ends of the dogs E E, projecting through the slots $B^\times$, stand above the bottom of the run in the path of the buttons. Each lever G is connected to the balanced bar by the spring-tongue $g^\times$, that is secured at one end to the lever and is attached at the other end to a stub or projection on the bar. This connection causes the lever to move with the bar, but also allows the other dog E to yield when a button in being moved forward is pressed against the inclined face. This is the normal position of the bar H and the levers G when the buttons are set back toward the end of the run and the apparatus is ready for use.

As the buttons are moved toward the opposite end along the rod, they readily pass the dogs E, but are prevented from being moved back again until these dogs are drawn down, and, therefore, to set the buttons back for a new game it is necessary to draw down the balance-bar that locks and controls the levers G. It will be noticed that at such downward movement of the bar the other dogs, F F, will be thrown up through the bottom of the run as the other dogs are withdrawn. The object of these dogs is to stop the buttons from being moved forward along the rod and used to count with between either end and the point where the tripping disk p is located at the time when the dogs E are drawn down below the track b. The dogs F are elevated at such time and the buttons can be run back for a new count, but not moved forward.

By means of the locking-lever P the balance-bar is held down at such time to permit the buttons to be run back on the rod, but a tripping device connected with the lever P causes it to release the bar H as soon as the first button of the string is moved forward. This part consists of the pivoted disk p, carrying a hinged dog, p', which is a segment of the disk and has a spring, p^2, under its face end. A slot, b^2, is made in the bottom of the run for the upper edge of the disk and the dog p' to work through, and the disk is set to turn freely on a pivot, p^3. The upper end of the lever P is attached to the disk by a pin and slot p^4, and the opposite end below the pivot p^5 is bent at a slight angle, to take in the notch J^2 at the upper end of the slide-bolt J. The spring q, fixed at $q^\times$, holds the foot of this lever against the bolt. Now by this construction the lever P catches into the notch J^2 as the bolt J is drawn down, and the lateral movement then taking place at the foot of the lever throws the upper end in the opposite direction and rotates the disk p. This movement throws up the segment-dog through the slot b^2, in consequence of which the bolt J will be released and the balanced bar be allowed to rise when the first button is moved forward over the disk p. By such movement the bottom edge of the button engaging with the dog p' partly rotates the disk and throws out the lower end of the lever P from the notch. Thus when the balanced bar is drawn down to release the buttons and permit them to be moved back it is held down until the first button of the string is moved forward to count.

Figs. 4, 5, 6, and 7 of the drawings represent the coin-actuated mechanism that operates on the rock-shaft M each time when set in motion by a coin of proper size and weight. Its motive agent consists of a number of balls, R, of uniform weight, and each one of sufficient weight to overbalance the outer end of

the lever M, when deposited in the tray N, and turn the rock-shaft in which the lever is rigidly fixed.

S is a storage-trough to hold a number of balls, with a chute, $S^{\times}$, at the lower end, and T is a pivoted gate to confine the foremost ball. A second gate or stop, U, holds back the second ball and all the others of the row behind it, so that the gate T has only the weight of the first ball against it.

$W^{\times}$ is a balanced lever pivoted at w^1 and carrying the coin-tray W on its front end. This lever controls the gate T and prevents it from swinging forward on its pivots until a given weight is deposited in the tray. The lever passes through the slot t^2, Fig. 7, in the gate, and has two stops or projections, w^2 w^3, on its upper and its lower edge, respectively, in line with the slot t^2. The stop w^2 stands in front of the plate T and above the edge of the slot, while the lower stop sets behind and with its end above the bottom edge of the slot to clear it. The lever $W^{\times}$ is pivoted at w^1 above and back of the pivots $t^{\times}$ of the gate, and causes a counterpoise, w^5, at the rear end.

The coin-tray W sets below the end of the coin-chute Y′, that is fixed behind the coin-slit Y in the front of the case, and beneath it is placed a coin-receptacle, Y^2, so that the tray end of the lever $W^{\times}$ vibrates between these two points, receiving the coin from the slit, and when depressed by the weight of it depositing it in the receptacle below.

Y^3 is a coin-ejector formed of a push plate placed inside the tray and fixed on the front end of a push-rod, Y^4, of which the rear end is furnished with a crotch, Y^5, in line with the chute $S^{\times}$, and in such close relation to the path of the ball that when first released the ball strikes the rear end of the rod Y^4 and throws forward the push-plate. The rod works in guides Y^6 Y^6, and is brought back by the spring Y^7. Between the end of the chute $S^{\times}$ and the ball-receiving tray in the rock-shaft lever is placed the lever X, that operates the second gate or stop, U. This lever is pivoted at X^2, and is held up by a spring X^3. The front end is furnished with a tray, $X^{\times}$, open at the front and setting directly above and in line with the tray of the lever N.

X^4 is a rod connecting the lever X with the stop carrying lever U. The pivot of the lever is set at $u^{\times}$, and the rear end carries a counterweight, w^6. The front end, U, forming the ball-stop, works through a slot, S^2, in the ball-trough.

When the foremost ball is released, it is caught by the tray $X^{\times}$, and by depressing the lever X it draws down the stop U and allows the next ball to roll forward into position. The gate T, however, is balanced on its pivots, so that it returns into position, and the lever $W^{\times}$ rises immediately after the ball passes through the end of the chute, so that the front gate is in position to take the second ball as the stop U is drawn down. In this manner one ball at a time is released to operate the locking-bar H, and at each time of deposit of a coin a ball is set free to drop and act. The stops w^2 w^3 on the gate T operate, in conjunction with the slot t^2 to prevent the release of a ball when the piece of coin dropped into the case is either in excess of or is less than a given weight, so that bogus or light-weight coin, or several coins of smaller denominations, or pieces of metal cut in imitation of coin, cannot be used to set off the mechanism.

If a light-weight piece is deposited in the coin-tray, the lever $W^{\times}$ will not be depressed sufficiently to bring the end of the stop w^2 below the edge of the slot t^2, and, in like manner, if the weight of the piece deposited is too great the lever will descend too low and the bottom stop, w^3, will catch behind the lower edge of the slot t^2 and lock the gate. It will thus be seen that the mechanism requires a given weight of piece to be inserted before the ball will be released to operate.

Z is a receptacle to catch the balls as they are discharged from the tray N. It is removable at the front of the case for taking out the balls and replacing them in the ball-trough above.

The operation of the marking apparatus will now be readily understood. The buttons can be run back on the string to begin a game, dropping a coin of suitable character into the case, and after each time of use to move the buttons back for a new game the same operation must be repeated.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A marking apparatus for billiards and other games having sliding counters or buttons movable on a rod in a grooved run or way, and a locking mechanism in combination therewith, consisting of locking-dogs E on the ends of levers working through slots in the run, a balanced bar to which said levers are attached to be moved and locked by it, a rock-shaft, K, connected with and adapted by its movement to depress said bar, the balanced lever M, which is adapted, when depressed, to turn the rock-shaft, and a set of actuating-balls, and mechanism whereby the same are released one by one and caused to overbalance and depress the said lever by gravity, substantially as hereinbefore described.

2. The combination, with a string of buttons or markers, of the slotted run *b*, locking-dogs E on levers G, balanced bar H, rock-shaft K, connecting crank-arm and slide-bolt, tilting lever M, and means, substantially as described, for operating said lever and its rock-shaft, consisting of a set of balls in a trough or chute above the lever, a ball-tray on the end of the lever, and mechanism acted upon by a coin and set in motion by its weight to release one ball and drop it into the lever-tray at each time of action, substantially as described, to operate as set forth.

3. In combination with locking-levers G, the balanced bar H, its operating rock-shaft

K, and the holding-down device, consisting of the disk p, with yielding dog p', and the spring-lever P, having a bent foot and the notched bolt or rod, substantially as described, to operate as set forth.

4. The combination, with the run or way for the sliding buttons, of the locking-dogs having inclined faces on pivoted levers G, the balanced bar H, and the rock shaft K, connected to said balanced bar and adapted by its movement to depress said bar and draw in the dogs below the run b, substantially as described.

5. The balanced lever $W^{\times}$, having the coin-receiver W and the stops w^2 and w^3, and the pivoted gate T, having the slot t^2, in combination with the inclined ball trough or chute S, substantially as herein described, to operate as set forth.

6. The combination, with the pivoted gate T, having the slot t^2, of the balanced lever $W^{\times}$, having stops w^2 w^3, substantially as described, to operate as set forth.

7. In combination with the tilting lever M, which is part of mechanism to be actuated or set in motion, a set of balls, R, in an inclined trough, the ball controlling gate T, the stop-gate U and operating-lever, and the coin-actuated lever $W^{\times}$, adapted to lock the gate T when elevated and to release it when depressed to a given point, substantially as described, for operation as set forth.

8. The combination of a suitable case having a coin slit and chute, S, the coin-actuated lever W $W^{\times}$ having the stops w^2 w^3, ball-trough S, gate T, having the slot t^2, stop-gate U, and lever adapted to control the discharge of the balls and release one at a time from a given movement of the coin-actuated lever, substantially as described.

9. The combination, with the chute S and balls R and the coin-receiver W, of a coin-ejector consisting of the push-plate rod having its end set in the path of the discharged ball to be struck by it, and the spring, substantially as described, for operation as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

EDMUND C. JONES. [L. S.]

Witnesses:

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ROBT. H. PEAT.