F. HEPTON.

BILLIARD TABLE AND THE LIKE.

APPLICATION FILED FEB. 15, 1905.

902,151. **Patented Oct. 27, 1908.**

3 SHEETS—SHEET 1.

Fig. 1

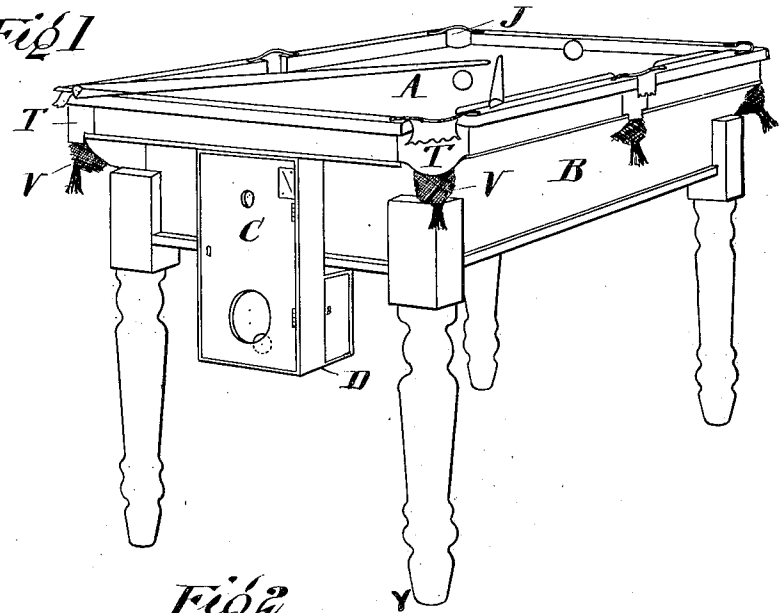


Fig. 2

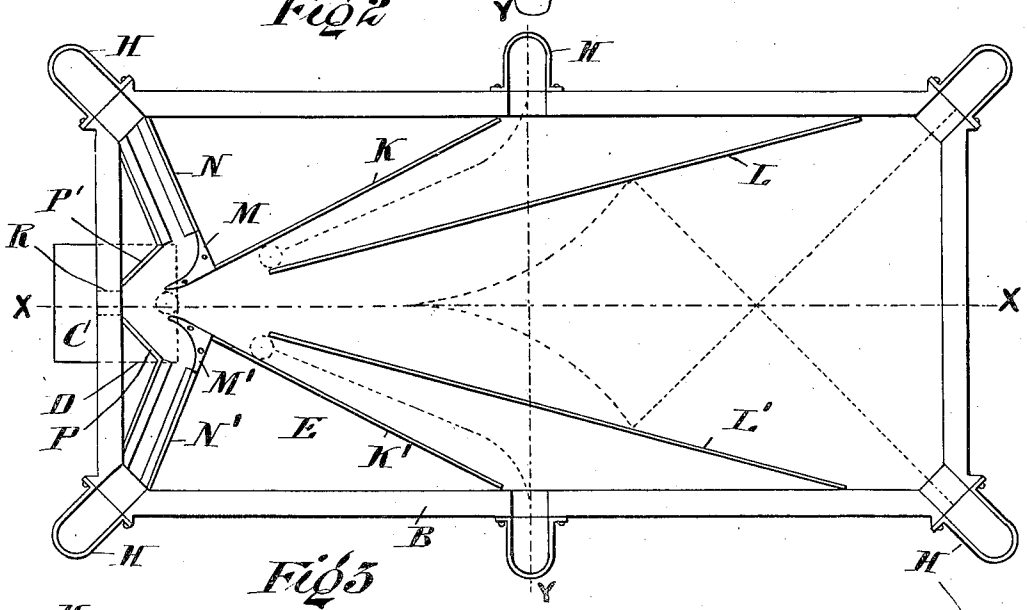
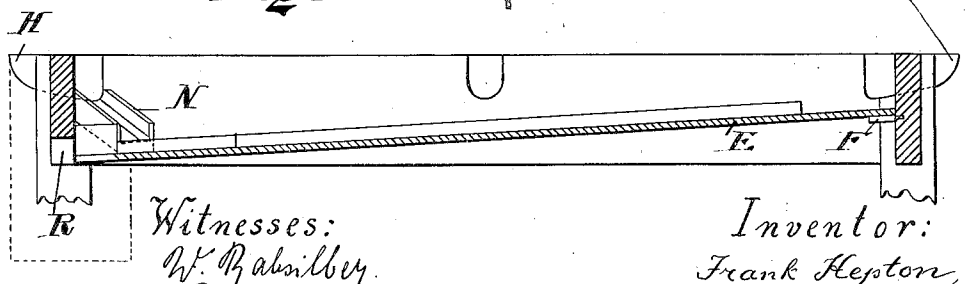


Fig. 5



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3 SHEETS—SHEET 2.

Fig 4

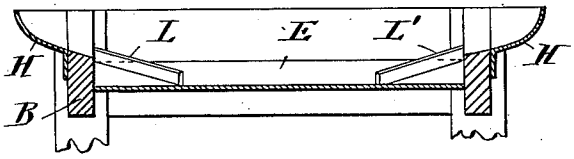


Fig 5

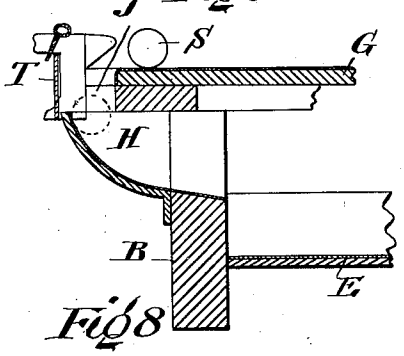


Fig 6

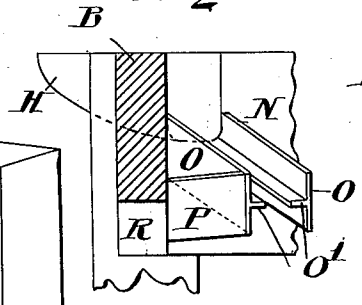


Fig 7

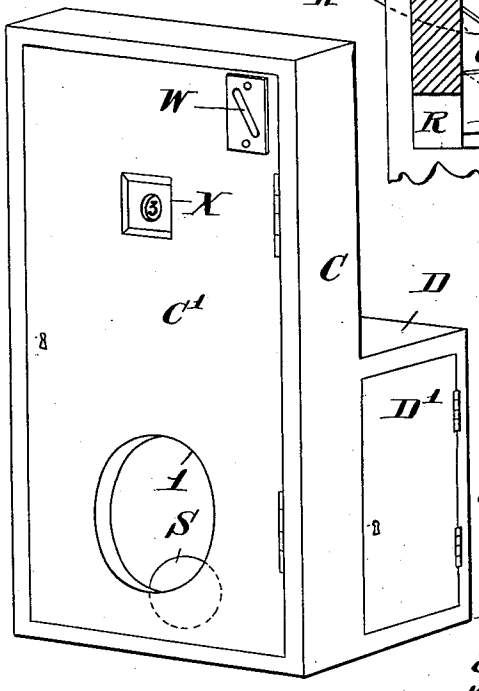


Fig 8

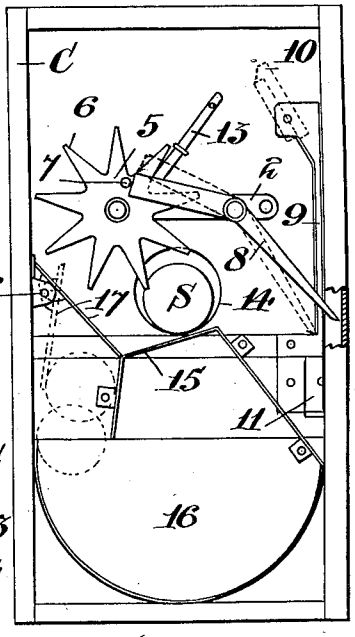


Fig 9

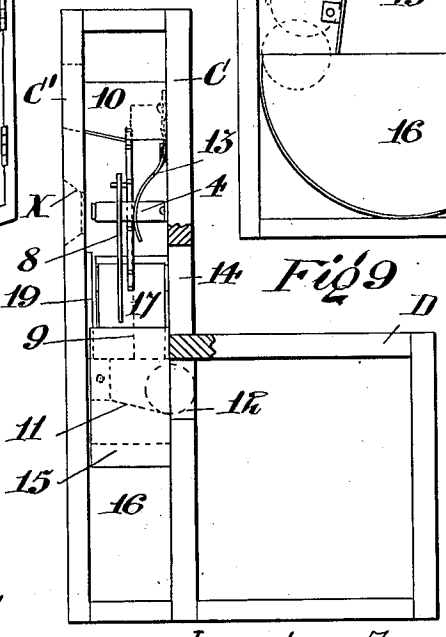
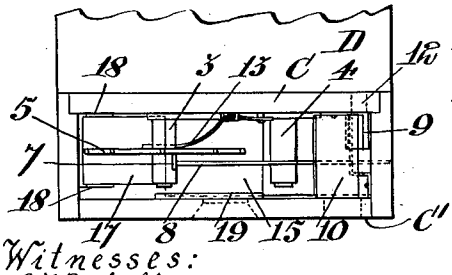


Fig 10



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3 SHEETS—SHEET 3.

Fig. 11

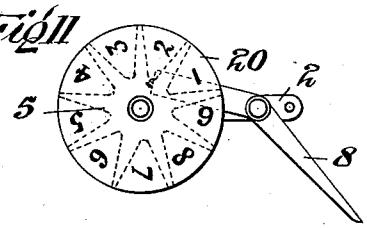


Fig. 12

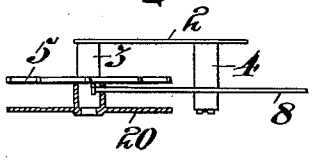


Fig. 13

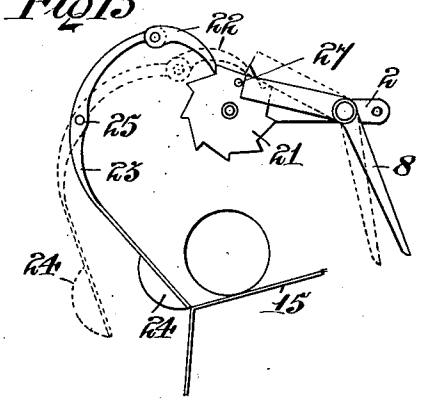


Fig. 14

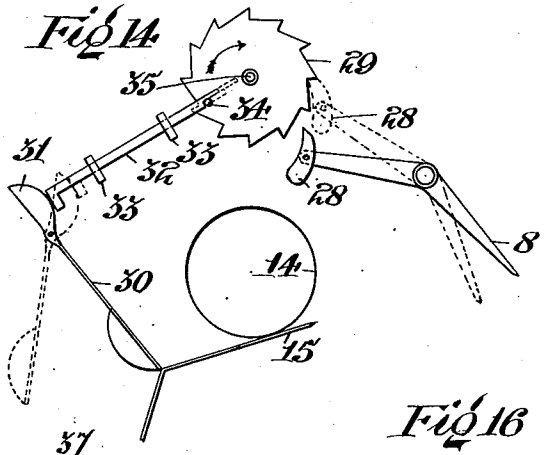


Fig. 15

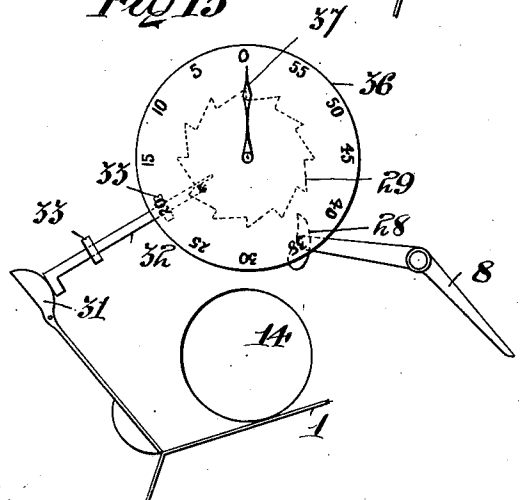
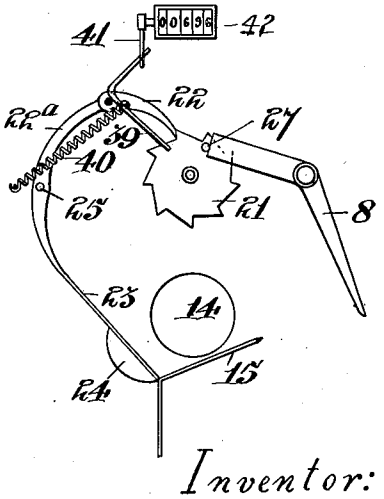


Fig. 16



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UNITED STATES PATENT OFFICE.

FRANK HEPTON, OF WOOLWICH, ENGLAND.

BILLIARD-TABLE AND THE LIKE.

No. 902,151. Specification of Letters Patent. Patented Oct. 27, 1908.

Application filed February 15, 1905. Serial No. 245,645.

To all whom it may concern:

Be it known that I, FRANK HEPTON, a subject of His Majesty the King of Great Britain, residing at 28 Upper Market street, Woolwich, in the county of Kent, in England, have invented certain new and useful Improvements in and in Connection with Billiard-Tables and the Like, for which I have made application for patent in Great Britain, No. 4,046, dated February 18, 1904, and of which the following is a specification.

My invention relates to improvements in and in connection with billiard and other similar tables or boards on which games with balls are played, and which are provided with pockets into which the balls fall, or are forced during the course of the game, and is for the purpose of securing prepayment of the charges for the use of the table or board and determining the duration of the game.

Referring to the accompanying three sheets of drawings:—Figure 1 is a perspective view of a billiard table to which my invention has been applied. Fig. 2 is a plan view of the supporting frame of the billiard table Fig. 1. Fig. 3 is a vertical sectional elevation of the frame as at and taken upon the line X—X Fig. 2. Fig. 4 is a sectional elevation taken upon the line Y—Y Fig. 2. Fig. 5 is an enlarged part section similar to Fig. 3 but showing the slate bed of billiard table in position. Fig. 6 is an enlarged view partly in section of a corner of the supporting frame. Fig. 7 is a perspective view of a box containing the ball controlling mechanism to be hereinafter described. Fig. 8 is a front elevation of the box with the door thereof removed to disclose the mechanism. Fig. 9 is a side elevation of the box or casing with the side and side door removed. Fig. 10 is a plan view of the box with the top removed. Figs. 11 and 12 are detail views hereinafter referred to. Figs. 13, 14, 15 and 16 illustrate slight variations of the mechanism shown by Figs. 8, 9, and 10.

My invention consists in providing chutes or guides beneath the bed or playing surface of the table so that after the balls have been obtained by the insertion of a coin or coins as described hereafter and during play are pocketed, they are conveyed to a receptacle accessible to the players for use again until the regulated number of balls have passed the mechanism provided for securing prepayment of the charges for the use of the table.

For descriptive purposes I will take as an example the application of my invention to a billiard table.

In Fig. 1 is shown a billiard table A arranged in accordance with my invention. At that portion of the table known as the balk end, I fix to the side of the supporting frame B, a box or casing C having a rear extending portion D which as shown in dotted lines in Figs. 2 and 3 projects beneath the frame B. Upon such projecting portion D is supported the lower end of an inclined board E forming a bottom for the frame B, and removably connected at its opposite end by a bolt F Fig. 3, so that it may be removed from the frame B without lifting off the slate playing bed G. Fig. 5.

Corresponding to the position of the pockets provided in the playing bed G, the frame B is cut away and provided with rigid receptacles H which curve or are inclined downwardly towards the board E and project a distance beyond the frame B sufficient as shown in Fig. 5 to embrace the pocket openings J of the slate bed G.

Adjacent to the middle and (relative to the balk end of the table) the top corner receptacles H, the inclined board E is provided with ribs KK^1 and LL^1 each pair of which converge as they approach the lower end of the frame but are not arranged to meet, and the former pair KK^1 form a continuation of corner pieces MM^1. The bottom corner receptacles H by reason of their being some height from the inclined board E are provided with inclined chutes NN^1 shown more clearly in Fig. 6, and consisting of side members O having horizontal ribs O^1 adapted to deliver the balls from the receptacles onto the board E without injury. As shown the corner pieces MM^1 turn into the one sides of the chutes NN^1, while between the other side of the latter and the frame B are connected guard or directing ribs PP^1 for insuring delivery of the balls to a circular aperture R formed in the front of the frame as at Fig. 3.

It will be seen referring to Fig. 5 that on a ball S being played into one of the pockets J of the slate or playing bed G, that the ball will fall into one of the receptacles H and be delivered onto the inclined board E either

direct if from a top corner or middle pocket, or down one of the chutes NN¹ if a bottom corner pocket.

In the case of the middle and top corner pockets, the inclined surface of the board E and ribs KK¹ and LL¹ form the chutes for delivering the balls to the hole R, which balls travel approximately in the direction of the dotted lines Fig. 2, and on passing the corner pieces MM¹ are somewhat checked or retarded thereby so that they are ultimately delivered quickly to the box or casing C. To prevent injury to the balls and avoid undue noise the surface of the board E and inner surfaces of the receptacles H may be lined with a suitable resilient material, while to prevent interference with the proper passage of the balls, the receptacles H are preferably arranged wider at the bottom than at the top, and the pocket openings J of the slate bed G are provided with rigid side pieces T Figs. 1 and 5 with or without the addition as shown in the former figure of net pockets V for the sake of retaining the resemblance of the ordinary billiard table.

When a ball is pocketed and conveyed in the manner described to the opening R, it passes therethrough into the box or casing C already referred to and operates mechanism provided therein. As stated this box referring now to the enlarged views Figs. 7–10 has a rear extending portion D. The front and side portions are respectively provided with doors C¹ and D¹ normally kept locked, the former of which is provided with a coin slot W, inspection aperture X, and an aperture 1 giving access to the lower interior front portion of the box C.

Upon the back of the front portion of the box C is fixed a plate 2, having studs 3 and 4 formed thereon. Upon the stud 3 is loosely mounted a star wheel 5 having a suitable number of radial arms 6 (nine being shown in the drawings by way of example) and provided with a locking stud or projection 7 adapted to engage with the one end of a balanced locking lever 8 pivoted on the stud 4 and having its other end projecting beyond a coin chute 9 fixed to the side of the box C, to which coin chute 9 a coin inserted in the slot W is delivered by a chute 10 fixed to the inside of the door C¹, and after passing down the chute 9 enters and is delivered by a chute 11 through a slot 12 into the rear part D of the box.

In order to slightly brake the movement of the star or locking wheel 5, a suitable spring 13 fixed to the box C is arranged to bear thereupon as shown.

For coinciding with the hole R in the supporting frame B previously mentioned, a circular aperture 14 is formed in the box adjacent to the locking wheel and situated just above the top of the rear portion D, while just below said aperture 14 is fixed a bent frame or chute 15 which is shut off from the accessible part 16 of the box by a spring controlled flap 17 pivoted at 18 and which can open downwardly only. Both the flap 17 and chute 15 extend nearly to the door C¹, and the latter opposite the aperture 14 is provided with a pad 19 against which the balls entering through the aperture 14 may impinge without liability to become damaged. As shown in Fig. 8 the side wall of the accessible part 16 is rounded.

In operation a billiard table constructed and arranged as herein set forth would for the game of billiards be provided with a set of three balls, which being inserted through the receptacles H would be delivered by the chutes to the coincidental apertures R and 14 respectively formed in the frame B and box C. Assuming as shown by full lines in Fig. 8 that the locking lever 8 and locking stud 7 are in engagement, one or other of the arms 6 of the locking wheel 5 would effectually prevent the balls moving thereby until the stipulated coin or coins be inserted in the slot W, whereupon by the said coin or coins falling upon the locking lever 8, this is deflected and disengaged from the stud 7 as shown in dotted outline in Fig. 8, the coin or coins being then directed into the rear portion D of C as before described. As soon as the locking wheel is released, the weight of each ball causes this to rotate a distance of one tooth and allows each ball to run down the chute 15, pass by the flap 17 (which would be depressed as shown) and travel round a semicircular path into the accessible portion 16. Play may then be commenced, and as it proceeds each time a ball is pocketed and delivered to accessible portion 16 of the case or box C in the manner described, the locking wheel is rotated the extent of one arm or tooth until the locking stud 7 is finally brought round to its original position and again engages with the locking lever 8 which after deflection is returned to position by gravity or by a spring. As soon as this engagement between the lever 8 and stud 7 occurs, the next ball pocketed will not be delivered and cannot therefore be placed into play until a further payment is made by inserting a coin or coins in the slot W for releasing the mechanism in the manner referred to.

In order that the players especially at the close of a game may know how many times more they may pocket a ball before another payment must be made, I may mount upon a projecting center of the wheel 5 a disk 20 Figs. 11 and 12 having numbers from 1 upwards (according to the number of the radial arms or teeth 6 of the wheel 5), marked thereon, which numbers may as shown by Fig. 7 be separably disclosed by a glass protected aperture X as the wheel 5 is rotated by the passage of a ball thereby

By varying the number of locking studs in relation to the teeth on the locking wheel, I can control the number of balls to be obtained by the insertion of each coin or coins, while the number of coins necessary to unlock the mechanism may be varied either by increasing the weight necessary to deflect the locking lever or by using two or more locking levers with coin chutes for each, a plurality of said locking levers of course all engaging with one and the same locking stud.

In modification I may in lieu of the star wheel 5 employ a ratchet wheel 21 Fig. 13, and a pawl 22 engaging therewith, and carried by the upper end 22^a of a counter-balanced or spring controlled lever 23 the lower end of which is formed as or provided with a pan or receptacle 24. The lever 23 is pivoted to the box C at 25 and the lower end of said lever is arranged to be situated approximately in the position of the flap 17 of the previous arrangement, and similar thereto would only be capable of opening downward.

The ratchet wheel 21 would be provided with a locking stud 27 for engaging and being disengaged from the locking lever 8 as before described, and when disengaged a ball delivered through the opening 14 of the box C would run down the chute 15 and deflecting the lever 23 be delivered into the accessible portion 16 of the box. Such deflection of the lever 23 as shown by dotted outline in Fig. 13 would cause the pawl 22 to rotate the ratchet wheel 21 one tooth, and the return of the lever would permit the pawl to engage the next following tooth. When the balls have passed by the lever 23 the pre-determined number of times, the stud 27 would engage the locking lever 8 and prevent further rotation of the ratchet wheel 21 and therefore any movement of the lever 23 until a fresh coin or coins be inserted.

Referring to Fig. 14 I may provide the locking lever 8 with a pawl 28 adapted when the lever 8 is deflected by a coin or coins as described, to engage a ratchet 29 attached to suitable clockwork (not shown) for carrying round the ratchet wheel when free, in the direction of the arrow. A spring controlled pivoted lever or flap 30 having a cam projection 31 is controlled by rod 32 working in guides 33, and engaging a stud 34 on the wheel 29. A ball entering the aperture 14 in the box C cannot now pass the lever or flap 30, and as the ratchet wheel is only placed friction tight on arbor 35 of clockwork, such ratchet wheel does not rotate while locked by the rod 32. When lever 8 is deflected by a coin or coins as described the pawl 28 rotates 29 a distance of one tooth, and moves stud 34 a similar distance thereby disengaging the rod 32, and permitting the lever or flap 30 to be deflected, and allow the balls to pass until the stud 34 is carried back to original position by action of clockwork, when it again locks the rod 32. By this arrangement a certain time may be given for each prepayment and it will be seen that the insertion of a number of coins one after the other would move the stud 34 further round and thus give longer time if desired.

To enable the time remaining for play to be known before further payment will be necessary, a dial 36 marked as shown may be provided so that a pointer 37 connected to the ratchet wheel 29 and carried round thereby may operate as an indicator in connection with the dial, which similar to the marked disk 20 Figs. 11 and 12 may be arranged to be seen through the door C^1 of the box C.

As a check upon the number of times the apparatus may be operated, the locking wheel, ratchet, or clockwork, may be arranged to actuate any well known numerating device. In Fig. 16 I have shown for example the mechanism as at Fig. 13 arranged so that the stud 27 on the locking ratchet wheel 21, may each time the locking wheel 21 is moved round one turn or revolution, engage with and deflect a pivoted well cranked lever 39 against the tension of a spring 40 which lever at its free end engages a slotted actuating arm 41, of, for example, a numerating device 42 of known type, and so causes a to and fro movement of the arm 41 to take place for operating the indicating disks. The spring 40 returns the lever 39 to position for a further operation by the next engagement of the stud.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A coin freed attachment for billiard and like tables comprising in combination with the table having inclined chutes the casing (C), means forming a coin receptacle, an incline (15), and a flap dividing said casing into two compartments, the upper one having an opening in its back and the lower one an opening in its front, the said casing being so located as to permit the passage of the playing balls from the converging point of a plurality of inclined chutes of the table through the opening in the said upper compartment onto the said incline (15), and coin freed means in said casing, adapted to prevent the balls from reaching the lower compartment of the said casing.

2. A coin freed attachment for billiard and like tables, comprising in combination with the table having inclined chutes a casing (C), means forming a coin receptacle, an incline (15), and a flap dividing said casing into two compartments, the upper one having an opening in its back and the lower one an opening in its front, the said casing being so located as to permit the passage of the playing balls from the converging point of

a plurality of inclined chutes of the table through the opening in the said upper compartment onto the said incline (15), means being provided at the base of the said lower compartment, constituting a semi-circular track for the balls, a guide for directing the playing balls round said track and coin freed means in said casing preventing the balls from reaching the lower compartment of the said casing.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK HEPTON.

Witnesses:

HENRY CONRAD HEIDE,

ALBERT GEORGE BARNES.