March 19, 1940. T. A. THOMPSON ET AL 2,193,948

AUTOMATIC PUNCHBOARD

Filed Feb. 1, 1938 5 Sheets-Sheet 1

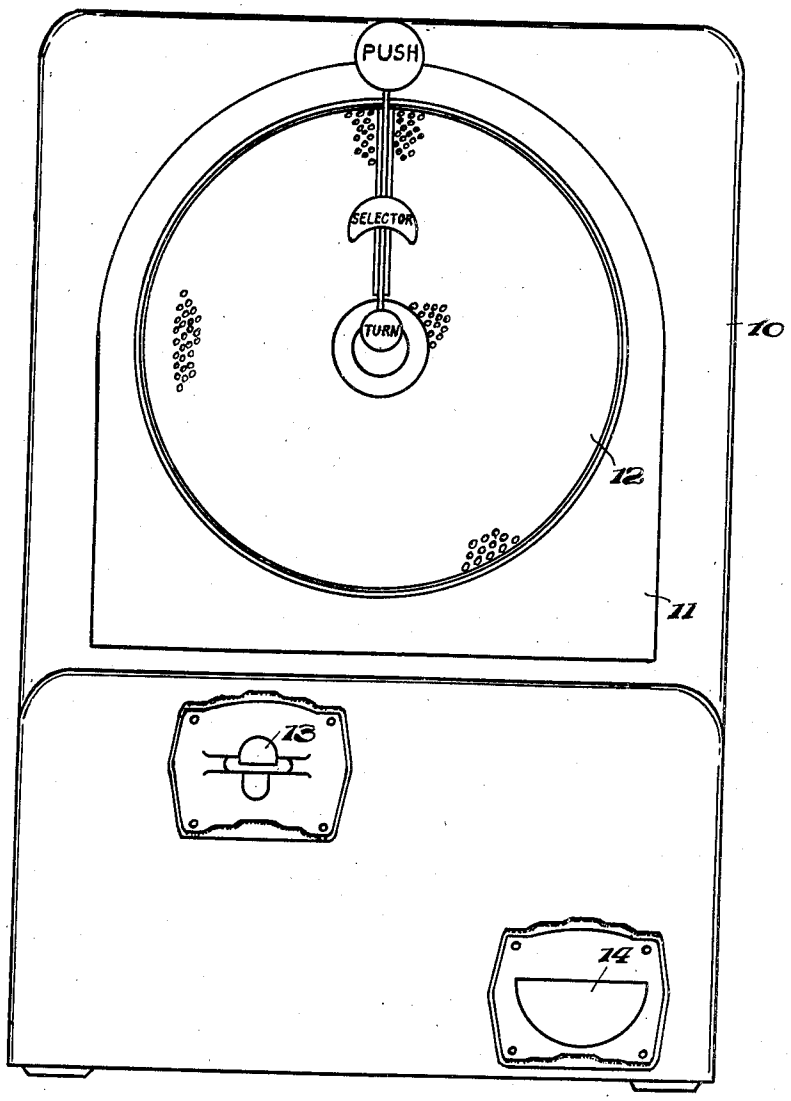


Fig. 1.

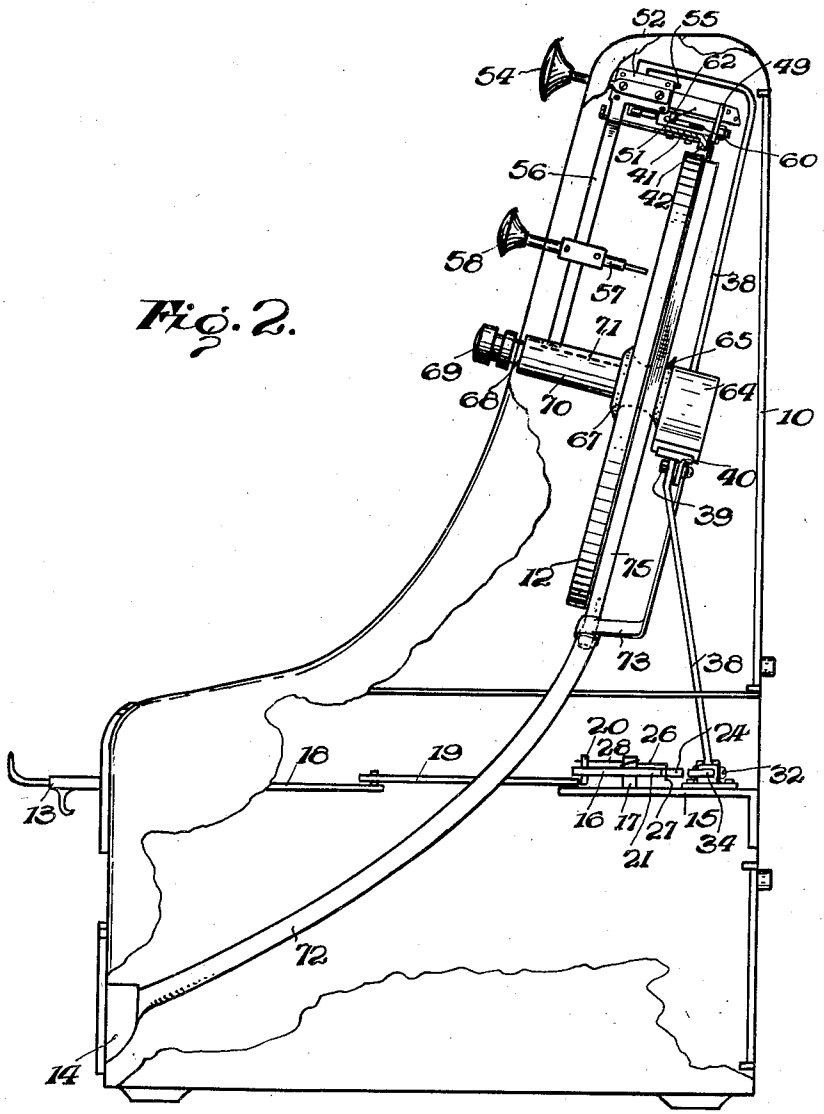
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Fig. 2.



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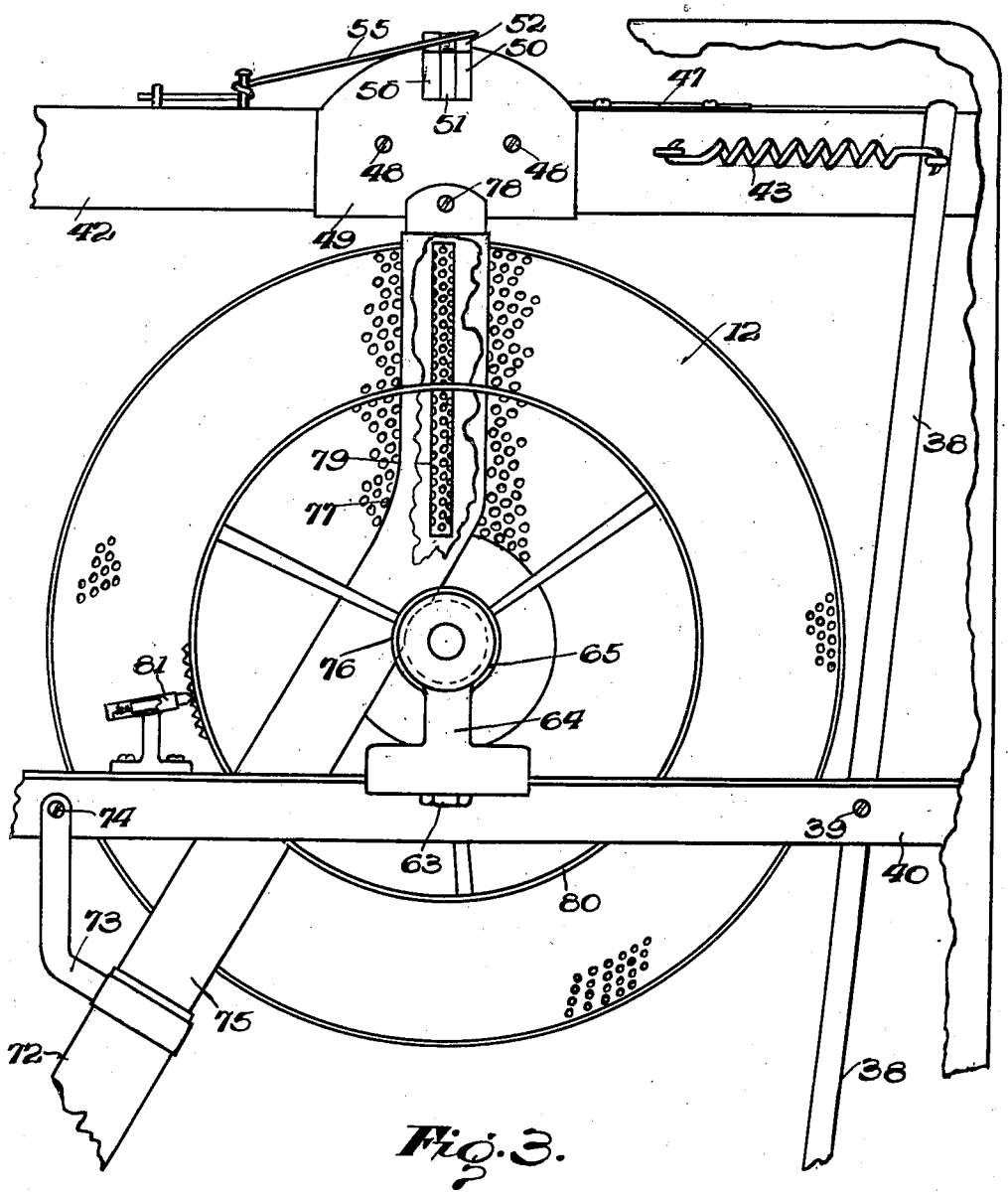


Fig. 3.

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AUTOMATIC PUNCHBOARD

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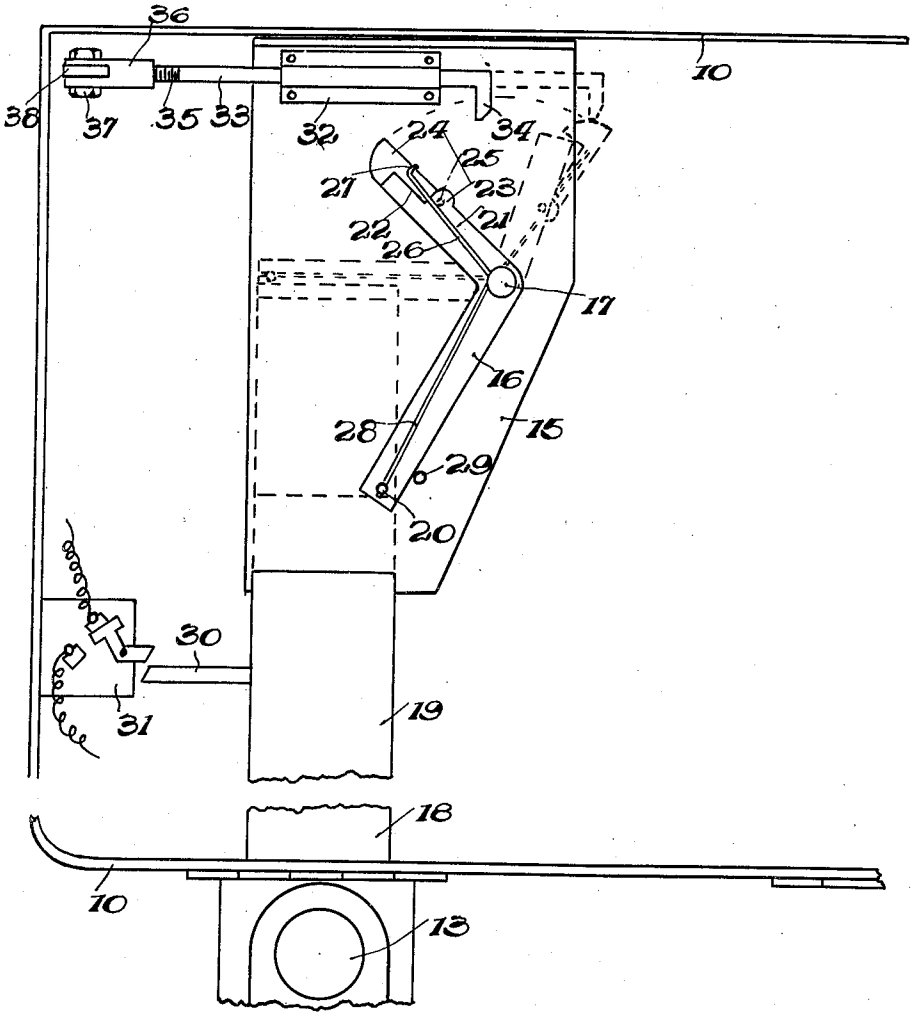


Fig. 4.

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AUTOMATIC PUNCHBOARD

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Fig. 5.

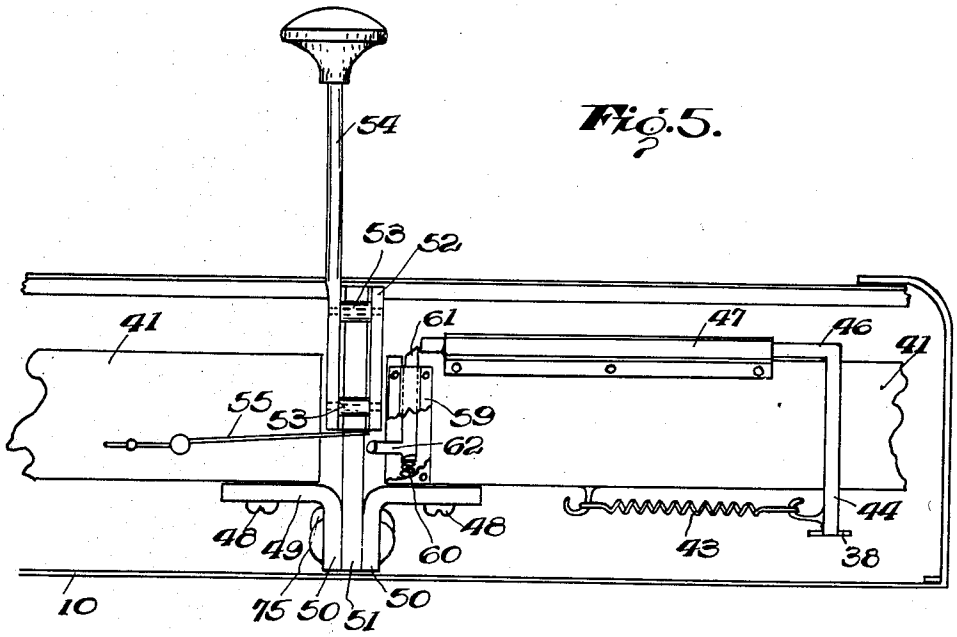
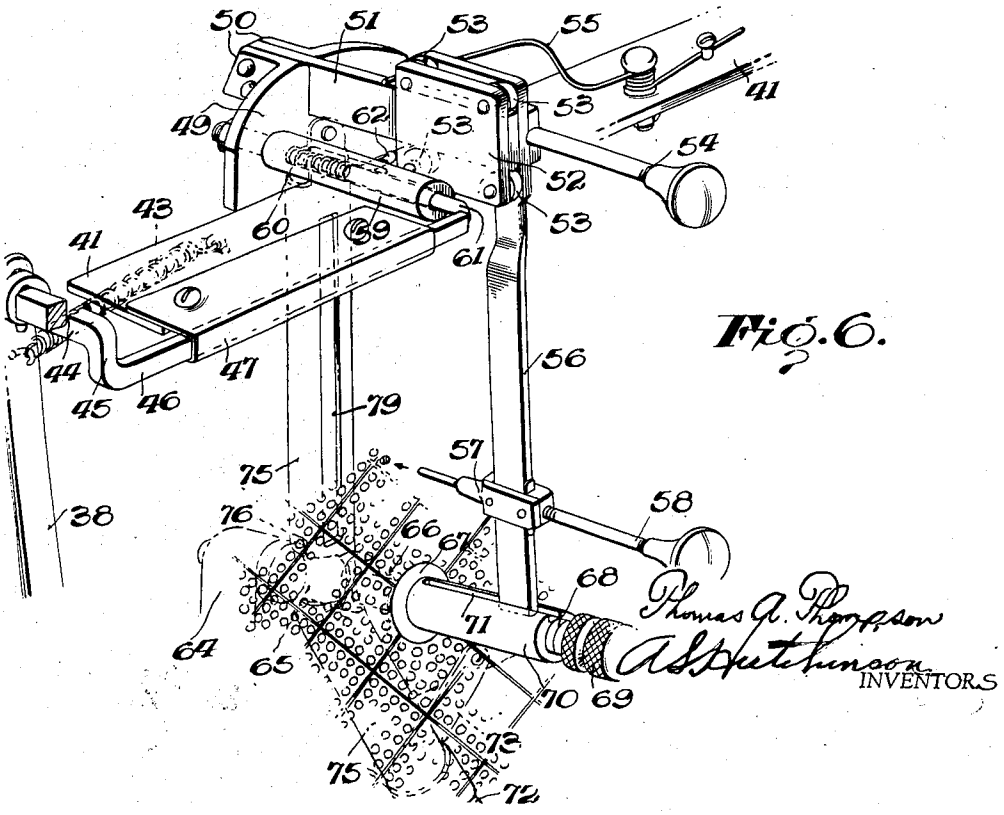


Fig. 6.



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Patented Mar. 19, 1940 2,193,948

UNITED STATES PATENT OFFICE

2,193,948

AUTOMATIC PUNCHBOARD

Thomas A. Thompson and Alan S. Hutchinson,
Tacoma, Wash.

Application February 1, 1938, Serial No. 188,206

10 Claims. (Cl. 273—139)

This invention relates to automatic punchboards and more particularly to automatic punchboards of the coin actuated type suitable for telling fortunes or other games of skill. Still more particularly this invention relates to coin actuated punchboards of the type in which the punch is held inserted in the punchboard until a coin releases the punch to allow the punchboard and punch to be mutually adjusted by the user for selecting the next insert to be punched.

It is accordingly an object of my invention to provide a novel automatic punchboard which is normally locked against operation.

Another object of my invention is to provide a novel automatic punchboard normally locked against operation by locking the punch in the punchboard and provided with a coin actuated release for placing the punch and punchboard in operative condition.

Another object of my invention is to provide a novel automatic punchboard provided with novel means for locking the punch in the punchboard.

Another and still further object of my invention is to provide a novel automatic punchboard in which novel means are provided for delivering the punched out insert to the user.

A still further object of my invention is to provide a novel automatic punchboard in which novel means are provided for so mounting the punchboard as to allow the ready replacement of the punchboard.

Another and still further object of my invention is to provide a novel automatic punchboard which is certain and accurate in operation and which can be used only once for each coin inserted.

A still further object of my invention is to provide a novel automatic punchboard which is of simple construction, durable, and cheap to manufacture.

Other and further objects of my invention will appear as the description of the invention proceeds.

With these objects in view the attached drawings disclose an illustrative embodiment of the present invention but it is to be expressly understood that these drawings are for the purposes of illustration only and should not be considered as definitive of the present invention, reference being had to the appended claims for this purpose.

In the attached drawings

Fig. 1 is a front view of one embodiment of the novel automatic punchboard of the present invention showing the relative positions of the several parts;

Fig. 2 is a side view of the embodiment of the present invention shown in Fig. 1 with part of the case cut away;

Fig. 3 is a rear view of the embodiment of the present invention shown in Fig. 1 with the case cut away;

Fig. 4 is a view of the coin release lock and a portion of the punch release mechanism used with the embodiment of the present invention shown in Fig. 1 as seen from the top in Fig. 1;

Fig. 5 is a view from the bottom in Fig. 1 of the novel punch operating mechanism and lock for the same used with the embodiment of the present invention shown in Fig. 1; and

Fig. 6 is a perspective view of the novel punch operating mechanism and novel lock for the same shown with the novel punched insert delivering means and novel punch board actuating means of the embodiment of the present invention shown in Fig. 1.

In these figures in which like reference characters indicate similar parts, 10 is any suitable case for protecting the mechanism of the present invention, streamlined if desired, and provided with a transparent window 11 for viewing the circular punchboard 12. Also carried by case 10 is coin insert mechanism 13 and punched insert delivery trough 14. Carried within case 10 and secured to the back thereof is support plate 15 upon which is mounted bell crank lever 16 designed to rotate about pivot 17 carried by plate 15. Suitably secured to casing 10 is any suitable coin release lock 18 of any of the types now on the market having the above mentioned coin insert mechanism 13 and being provided with a suitable finger 19 designed to engage the depending pin 20 carried in one arm of the bell crank lever 16. The other arm 21 of bell crank lever 16 is cut away at 22 and provided with a pair of opposed shoulders 23 within which the curved shaped head piece 24 is designed to be rotatably mounted upon the pivot 25. A spring 26 is secured to pivot 17 and is provided with an arm 27 to engage head 24 to normally urge head 24 into engagement with the cutaway portion 22 of arm 21. Spring 26 is further provided with an extending arm 28 engaging depending pin 20 to rotate bell crank lever 16 in a counterclockwise direction as seen in Fig. 4, a stop 29 being carried by plate 15 to limit this rotation.

Carried by finger 19 is a projection 30 designed to engage and operate any suitable switch 31 to illuminate the punchboard if desirable.

Carried on plate 15 is a suitable bearing member 32 in which is slidably mounted an arm 33 provided with a suitable projection 34 designed to be engaged by head 24 of bell crank lever 16. The other end of arm 33 is threaded at 35. Mounted upon the threaded portion 35 of arm 33 is pivot housing 36 carrying pivot 37. Rotatably mounted on pivot 37 and extending upwardly toward the top of casing 10 is actuating member 38 which is pivoted at 39 upon support bar 40 which extends parallel to the back and base of casing 10 and is secured to the sides of casing 10 (Fig. 3). Arranged parallel to bar 40 and supported by the sides of casing 10 adjacent the top of casing 10 is a second support bar 41 provided with a downwardly extending flange 42. Suitably secured to flange 42 is a spring 43 designed to engage the upper portion of actuating member 38 to rotate actuating member 38 in a counterclockwise direction as seen in Fig. 3.

With particular reference now to Figs. 5 and 6, member 38 is provided with an extension 44 disposed at right angles to member 38 and extending across and parallel to bar 41. Extension 44 is provided with a portion 45 arranged at right angles to extension 44 and extending downwardly over the edge of bar 41. Portion 45 of extension 44 is provided with a latch arm 46 designed to slidably engage the edge of bar 41 and is held in place by bearing member 47 secured to bar 41. Suitably secured to flange 42 in the center of bar 41, as by bolts 48, is plate 49 provided with outwardly extending projections 50 between which is suitably secured a track member 51 which extends across bar 41 and is suitably spaced therefrom. Mounted on track 51 is trolley 52 provided with bearings 53 and carrying an arm and hand knob 54 for use in manually moving the trolley 52 on track 51. Carried by bar 41 is spring 55 engaging the trolley 52 to urge it away from plate 49. Carried by trolley 52 is punch track 56 upon which is slidably mounted the punch 57 provided with suitable manual means 58 for sliding punch 57 on track 56. Carried by plate 49 is a tubular casing 59 within which is carried a spring 60 and a catch 61, spring 60 urging catch 61 away from plate 49 to engage the end of latch arm 46 when latch arm 46 is in its retracted position as shown. Catch 61 is provided with an extension 62 passing through a suitable slot in tubular casing 59 and designed to be engaged by trolley 52 when trolley 52 is moved toward plate 49. Latch 46 is of sufficient length to extend over the outer edge of punch track 56 when trolley 52 is in its inner position adjacent plate 49 to lock the assembly in that position.

With particular reference now to Figs. 2 and 3, suitably mounted upon the center of support bar 40, as by bolt 63, is hub support member 64. Rotatably mounted on hub support 64 is spool 65. Screwed into spool 65 is hub 66 having a shoulder 67, hub 66 passing through and supporting the circular punchboard 12 and shoulder 67 engaging the punchboard 12 and clamping it against spool 65 for rotation therewith. Hub 66 has a cylindrical extension 68 upon which is secured a hand knob 69 designed for use in rotating the extension 68, hub 66, punchboard 12 and spool 65. Loosely mounted on extension 68 is sleeve 70 having a longitudinal groove 71 within which the end of punch track 56 is designed to slide. If desired a ratchet wheel 80 (Fig. 3) may be carried by spool 65 for rotation therewith to be engaged by the ratchet 81 to steady and control the rotation of punchboard 12.

As above stated, one of the features of my novel invention comprises the means provided for delivering the punched out insert to the user. As seen in Figs. 2, 3, and 6 the delivery means comprises a delivery trough 14 into which a tube 72 opens. Tube 72 terminates adjacent bar 40 and is supported by a bracket 73 suitably secured to bar 40 as by the bolt 74. Designed to telescope into the end of tube 72 is a second tube 75 which is cut away at 76 to fit over a portion of spool 65 and is then shaped at 77 so as to extend upwardly on a radius of the punchboard 12 directly behind the punchboard 12 and in the plane of the punch track 56, the upper end of tube 75 being secured to plate 43 as by the bolt 78. Adjacent punchboard 12 the tube 75 is slotted as at 79 in the plane of the punch track 56 to receive the punched out inserts which then fall past the spool 65 and downward through tube 72 to the delivery trough 14.

Assuming that the embodiment of the present invention as above described is in position for the user to punch out the desired insert, then the various elements will be in the positions shown in Figs. 2, 5 and 6 and arm 33 will be in the position shown in dotted lines in Fig. 4. In this position latch 46 has been drawn to the left in Fig. 6 and is held there against the tension of spring 43 by catch 61 which is urged outward into engagement with the end of latch 46 by spring 60. With latch 46 drawn to the left in Fig. 6 it disengages the outer edge of punch track 56 and spring 55 moves trolley 52 away from plate 49 which in turn carries punch track 56 and punch 57 with it disengaging punch 57 from the punchboard 12. Punchboard 12 may now be manually rotated by the knob 69 and punch 57 may be manually moved along track 56 until the desired insert is opposite punch 57.

The user then grasps knob 54 and pushes it toward the surface of the case 10 thereby forcing trolley 52 toward plate 49 against the action of spring 55. Punch track 56 and punch 57 are moved with trolley 52 and punch 57 registers with the desired insert forcing it out of the punchboard 12 and into tube 75 through the slot 79, punch 57 passing through punchboard 12 and entering the slot 79. The insert then falls through tube 72 to delivery trough 14. As trolley 52 moves toward plate 49 it engages extension 62 of catch 61 and moves catch 61 toward plate 49 against the tension of spring 60. As soon as catch 61 clears the end of latch 46 spring 43 acting upon actuating member 38 rotates it in a clockwise direction as seen in Fig. 6. Clockwise rotation of member 38 slides latch 46 to the right until it engages the outer edge of punch track 56 and holds it against further movement in either direction. At this time punch 57 has entered the punchboard 12 to force out the insert and is consequently locked in place in the punchboard 12 thereby effectively prohibiting rotation of the punchboard 12. The embodiment of the present invention is now locked against any further use until a coin is inserted in the coin release lock 18.

When it is again desired to use the punchboard a suitable coin is inserted in the coin release lock 18 and the coin insert mechanism 13 pushed toward the case 10. This motion of the coin insert mechanism 13 moves finger 19 into engagement with the depending pin 20 of the bell crank lever 16 and also acts through projection 30 to close switch 31 to illuminate the punchboard 12.

As finger 19 moves further bell crank lever 16

is rotated in a clockwise direction as seen in Fig. 4 and head 24 engages projection 34 of arm 33 and slides arm 33 to the right. Motion of arm 33 to the right in Fig. 4 rotates actuating member 38 in a counterclockwise direction in Fig. 6 against the action of spring 43 to withdraw latch 46 and allow trolley 52 to move away from plate 49 under the action of spring 55 to carry punch track 56 with it to disengage punch 57 from the punchboard 12. When the punch 57 has been freed from punchboard 12 or at any other suitable time the user draws the coin insert mechanism 13 away from the case 10 and moves finger 19 away from depending pin 20 of bell crank lever 16. As finger 19 frees depending pin 20 spring arm 28 rotates bell crank lever 16 in a counterclockwise direction as seen in Fig. 4, until bell crank lever 16 engages stop 29, head 24 tripping back against the action of spring 26 to clear projection 34 after which spring 26 moves head 24 back into engagement with the cutaway portion 22 of the bell crank lever 16.

The user may now manually rotate the punchboard 12 and adjust punch 57 to align with the insert it is desired to punch out after which the user proceeds as described above to punch out the insert thereby locking the device against further use until another coin is inserted.

It will now be apparent that the present invention provides a novel automatic punchboard which is normally locked against operation by locking the punch in the punchboard, which is provided with a novel coin release for unlocking the punch and punchboard and which is provided with novel means for delivering the punched out insert to the user, the entire assembly being certain and accurate in operation, simple in construction, durable and cheap to manufacture. It is also now apparent that the present invention provides novel means to allow the ready replacement of the punchboard as tube 75 and hub support 64 are readily demountable allowing the punchboard 12 and its hub 66 and spool 65 to be lifted out and the punchboard 12 replaced.

To those skilled in the art changes to and modifications of the above described illustrative embodiment of the present invention may now be suggested without departing from the inventive concept of the present invention and reference should therefore be had to the appended claims to determine the scope of the present invention.

What is claimed is:

1. In an automatic punchboard including a rotatably mounted punchboard, a punch, a track for said punch arranged along a radius of said punchboard, a trolley carrying one end of said track, means for manually moving said trolley to engage said punch and said punchboard and means automatically locking said trolley and said punch against movement when said punch has entered said punchboard.

2. In an automatic punchboard including a manually rotatable punchboard having an extended hub, a punch, a track for said punch arranged along a radius of said punchboard and designed to have one end in slidable engagement with said hub, a trolley carrying the other end of said track, means for manually moving said trolley to slide said track along said hub and engage said punch and punchboard and means automatically locking said trolley and said punch against movement when said punch has entered said punchboard.

3. In an automatic punchboard including a manually rotatable punchboard, means for normally locking said punchboard against rotation including a trolley, a track carried by said trolley extending along a radius of said punchboard, a punch slidably engaging said track, manual means for moving said trolley to engage said punch and said punchboard, a spring actuated latch designed to engage said track when said punch has entered said punchboard to prevent further movement of said punch, a trip engaging said latch and holding it in inoperative position and means operated by said trolley to trip said trip and release said latch when said punch has entered said punchboard.

4. In an automatic punchboard including a manually rotatable punchboard, means for normally locking said punchboard against rotation including a trolley, a track carried by said trolley extending along a radius of said punchboard, a punch slidably engaging said track, manual means for moving said trolley to engage said punch and said punchboard, a spring actuated latch designed to engage said track when said punch has entered said punchboard to prevent further movement of said punch, a trip engaging said latch and holding it in inoperative position and means operated by said trolley to trip said trip and release said latch when said punch has entered said punchboard and coin actuated means for withdrawing said latch and freeing said punch and said punchboard.

5. In an automatic punchboard including a manually rotatable punchboard, means for normally locking said punchboard against rotation including a trolley, a track carried by said trolley extending along a radius of said punchboard, a punch slidably engaging said track, manual means for moving said trolley to engage said punch and said punchboard, resilient means opposing the movement of said trolley, a spring actuated latch designed to engage said track when said punch has entered said punchboard to prevent further movement of said punch, a trip engaging said latch and holding it in inoperative position and means operated by said trolley to trip said trip and release said latch when said punch has entered said punchboard and coin actuated means for withdrawing said latch and allowing said resilient means to move said punch out of engagement with said punchboard.

6. In an automatic punchboard having a rotatably mounted punchboard and a punch slidable over the face of said punchboard along a radius of said punchboard, means for receiving the punched out insert comprising a slotted tubular member arranged adjacent the rear face of said punchboard and having the slot in the plane of movement of said punch and a second tubular member cooperating with said first named tubular member to deliver the punched out insert to the user, said first named tubular member telescoping into said second named tubular member to permit the removal of said first named tubular member when replacing said punchboard.

7. In an automatic punchboard having a rotatably mounted punchboard with a rearwardly extending hub and a punch slidable over the face of said punchboard along a radius of said punchboard, means for receiving the punched out insert comprising a slotted tubular member having the slot adjacent the rear face of the punchboard and in the plane of movement of said punch for cooperation with said punch to receive the punched out insert, said tubular member being shaped around said rearwardly ex-

tending hub, and a second tubular member cooperating with said first named tubular member to deliver the punched out insert to the user.

8. In an automatic punchboard having a rotatably mounted punchboard and a punch slidable over the face of said punchboard, means for receiving the punched out insert and delivering the same to the user comprising a slotted tubular member having the slot adjacent the rear face of said punchboard in the plane of movement of said punch for cooperation with said punch to receive the punched out insert, said punch passing through said punchboard and entering said slot.

9. In an automatic punchboard having a rotatably mounted punchboard with a rearwardly extending spool-shaped hub and a punch slidable over the face of said punchboard, means for receiving the punched out insert and delivering the same to the user comprising a removable slotted tubular member having the slot adjacent the rear face of said punch board in the plane of movement of said punch for cooperation with said punch to receive the punched out insert, said punch passing through said punch board and entering said slot, said tubular member being shaped around and partially cut away to receive said spool-shaped hub, and a fixed second tubular member telescopically receiving said first named tubular member to deliver the punched out insert to the user, said first named tubular member being removed to permit removal of said punchboard.

10. In a device of the class described including a case and a rotatably mounted circular punchboard carried in said case, means for normally locking said punchboard against rotation including a track carried over the face of and along a radius of said punchboard, a punch slidably engaging said track, a trolley carrying the end of said track adjacent the periphery of said punchboard, a track for said trolley carried by said case, resilient means normally urging said punch out of engagement with said punchboard, manual means for moving said trolley to engage said punch and said punchboard, a latch engaging said track when said punch has entered said punchboard to hold said punch from further movement and coin actuated means for manually withdrawing said latch to allow said resilient means to withdraw said punch from said punchboard.

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