Jan. 8, 1952 C. A. FRICK 2,581,644

COIN RELEASED SKILL GAME APPARATUS

Filed May 13, 1949 3 Sheets-Sheet 1

FIG. 1.

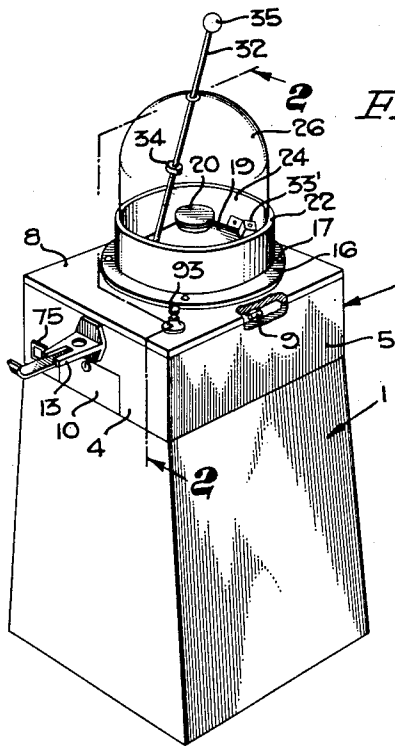


FIG. 2.

INVENTOR.
CHESTER A. FRICK

BY Harold J. LeVesconte

ATTORNEY

Jan. 8, 1952 C. A. FRICK 2,581,644

COIN RELEASED SKILL GAME APPARATUS

Filed May 13, 1949 3 Sheets-Sheet 2

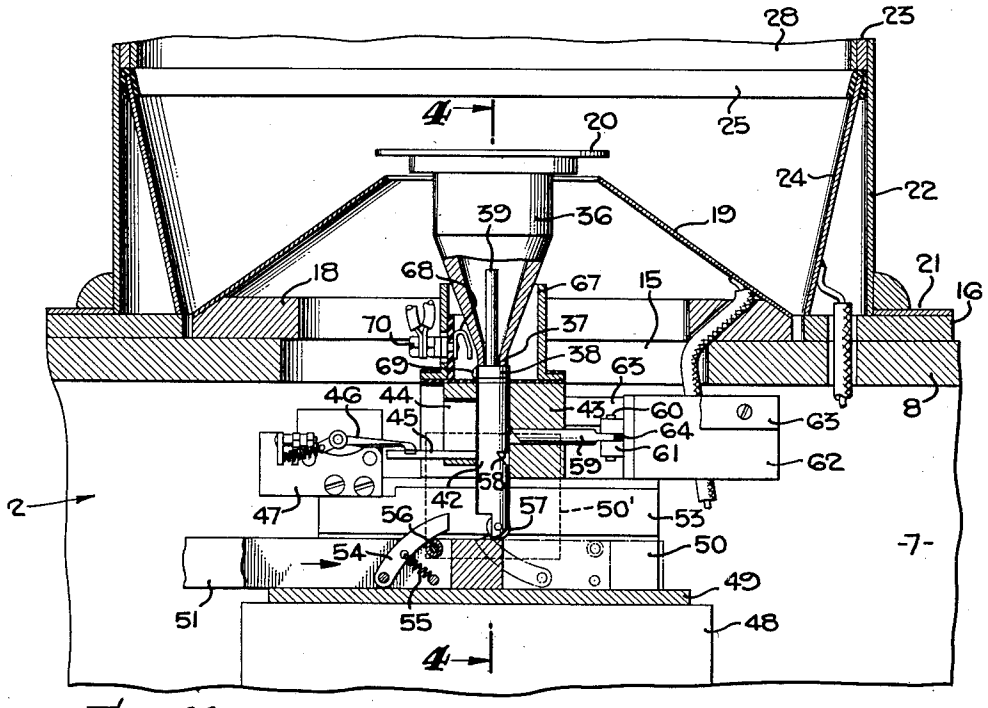


FIG. 3.

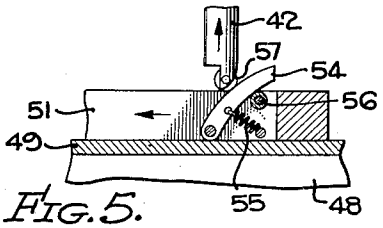


FIG. 5.

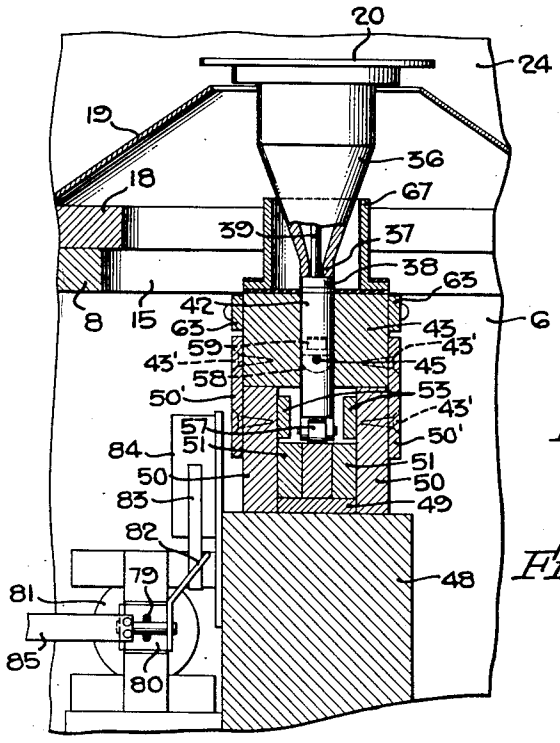


FIG. 4.

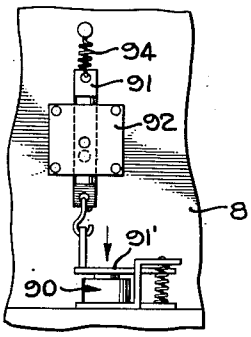


FIG. 6.

INVENTOR.
CHESTER A. FRICK

BY Harold J. LeVesconte
ATTORNEY

Jan. 8, 1952 C. A. FRICK 2,581,644

COIN RELEASED SKILL GAME APPARATUS

Filed May 13, 1949 3 Sheets-Sheet 3

FIG. 7.

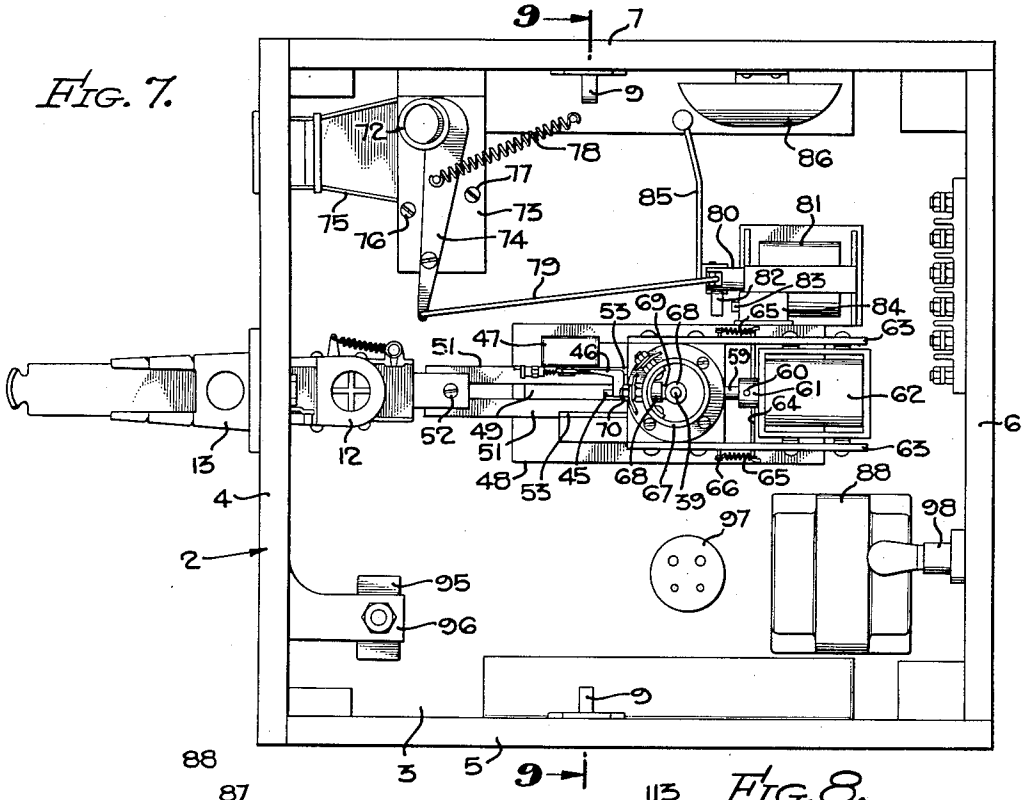


FIG. 8.

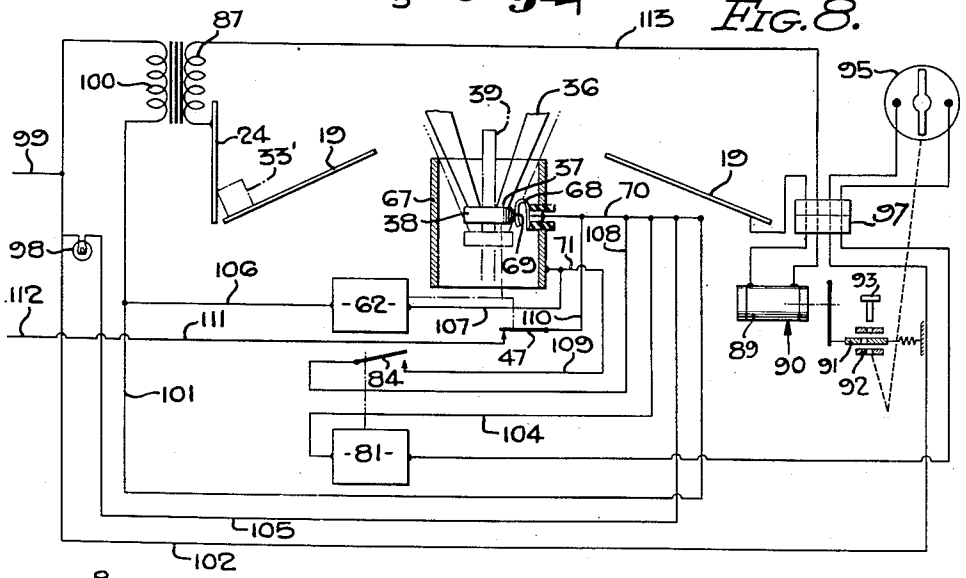
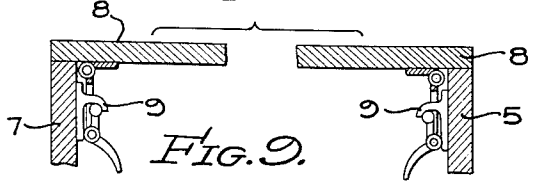


FIG. 9.



INVENTOR.
CHESTER A. FRICK

BY Harold J. LeBescontte
ATTORNEY

Patented Jan. 8, 1952

2,581,644

UNITED STATES PATENT OFFICE

2,581,644

COIN RELEASED SKILL GAME APPARATUS

Chester A. Frick, Glendale, Calif.

Application May 13, 1949, Serial No. 93,100

20 Claims. (Cl. 273—1)

1

This invention relates to amusement devices and particularly to a coin-released device in which the player is required to exercise considerable manual skill to achieve a required result upon which he may be rewarded by a return of the amount put into the machine to release it. The machine sets up a test for the degree of muscular coordination possessed which is a measure of the skill of the player and nothing in its operation is left to chance. In general, the playing area comprises a hemispherical compartment through which a manipulating member extends having means to engage a series of cubes or other flat sided playing pieces contained in the compartment and by means of which the playing pieces may be picked up and placed on a support which is delicately balanced. The object of the game is to stack a required number of these pieces on the support without causing it to be unbalanced. The support is so connected with electrically operated means that if the unbalance exceeds a predetermined amount, an operating circuit is closed causing the machine to be rendered inoperative until again released for playing by insertion of another coin. The sole determining factor of whether a player obtains a reward for his attempt is his personal skill in achieving the required result. It is allied to coin released machines for testing physical strength but instead of measuring the limit of some particular muscular action, such as gripping, striking, or pulling, the device presents a challenge to the player's steadiness of hand and his coordination of eye and hand as will be apparent from the detailed description of one mode of execution of the invention contained in the following specification; reference being had to the accompanying drawings forming a part thereof and in which:

Fig. 1 is a perspective view of a representative form of the device adapted to be placed on a floor, a portion thereof being broken away to show a locking means,

Fig. 2 is an enlarged, fragmentary, staggered sectional view taken on the line 2—2 of Fig. 1 and showing the condition prevailing when the objective of the game or challenge presented to the player has been successfully achieved.

Fig. 3 is a still further enlarged fragmentary section taken on the same line as Fig. 2 but showing the positions occupied by the moving parts when the effort of a player has been unsuccessful and the machine has been rendered inoperative by that effort,

Fig. 4 is a fragmentary, medial, sectional view taken on the line 4—4 of Fig. 3,

2

Fig. 5 is a fragmentary view of the resetting means shown in Fig. 4 with the parts in the position occupied at the beginning of the re-setting movement,

Fig. 6 is a fragmentary bottom plan view of the cover showing the locking means for preventing untimely actuation of the coin return portion of the device,

Fig. 7 is a top plan view of the mechanism within the device as viewed when the cover is removed,

Fig. 8 is a circuit diagram of the device, and

Fig. 9 is a fragmentary section taken on the line 9—9 of Fig. 7 to show the cover locking means.

In the illustrated embodiment of the invention, the supporting structure comprises a base 1 of frusto-pyramidal form on which is mounted a straight sided case or housing 2 having a bottom 3 and sides 4, 5, 6 and 7 on which certain of the operating elements are mounted as will be later described in detail. The top of the case is closed by a cover element 8 detachably secured thereto by latch elements 9, 9 access to which may be had through the door 10 in the side element 4. This door also provides access to a removable coin receiving tray or box 11 resting on the bottom 3 of the case and positioned beneath the coin discharge chute 12 of a coin actuated slide element 13 attached to and extending through the wall 4 above the door 10. A key operated lock 14 serves to secure the door in closed position.

The cover 8 has a large circular opening 15 extending therethrough and mounted on the upper face of the cover is a ring 16 of electrically non-conductive material secured thereto by a series of bolts 17. As best shown in Fig. 2 this ring has an inner diameter which is considerably larger than the opening 15 and is spaced from the outer diameter of a second ring 18 of electrically non-conductive material which is rigidly secured to the upper face of the cover 8 and slightly overlaps the opening 15. The outer upper corner of the ring 13 is beveled and supports the outer lower edge of a metal bottom member 19 of frusto-conical form, the upper smaller diameter of which is considerably smaller than the opening 15 and provides an operating clearance for the supporting means of a table element 20 which will later be described in more detail.

Mounted on the upper face of the ring 16 is the flange 21 of a vertically disposed metal band 22 to the upper inner surface of which is secured a relatively heavy metal band 23. Disposed within the band 22 is a metal sidewall element 24 of

inverted frusto-conical form disposed with its smaller end resting on the upper face of the ring 16 substantially adjacent to the inner diameter thereof and with its upper larger end carrying an insulating element 25 of inverted U-section engaged by the lower edge of the band 23. A dome 26 of transparent material is mounted on the upper edge of the band 23 and is secured thereon by a series of screws 27 extending through the upper end of a metal band 28 which is secured to the inner face of the band 23 by screws 29. The dome is provided with an opening 30 at its top in which is mounted a rubber grommet 31 in which a rod 32 of non-conductive material is loosely mounted. The rod within the dome carries a hook element 33 to engage the playing pieces 33' as will be later described, and a stop collar 34 to limit the extent of endwise movement through the grommet. At its outer end the rod carries a knob element 35 to facilitate manipulation while operating the device. In the form here illustrated, the playing pieces are metal cubes having centrally disposed holes in each face adapted to be engaged by the hook 33 (see Fig. 2).

The table element 20 is mounted on the upper end of a tubular metal support 36 and, preferably, is disposed slightly eccentric thereto. The support 36 at its lower end tapers to a small flat seat 37 engaged by the upper face of a metal uplifting element 38 provided with a guide pin 39 which loosely extends into the interior of the support 36 (see Fig. 2).

The lifting element includes a downwardly extending portion 40 which is seated in a non-conductive bushing 41 in the upper end of a push rod 42 mounted for vertical reciprocation in a bearing block 43 forming part of the frame structure for the table operating means. The bearing block at one side is provided with a vertical slot 44 through which extends a laterally disposed rod 45 one end of which is threaded into the push rod to keep the push rod from turning, and the distal end of the rod 45 engages a spring biased arm 46 adapted to operate a switch 47 in the manner and for a purpose to be later described in detail. The table operating means is mounted on a block 48 fixed to the case bottom 3 and the frame structure of this means comprises a horizontal base plate 49 of flat rectangular section and a pair of side members 50, 50 of vertically disposed rectangular section extending along the opposite side edges of the base plate 49; the block 43 being mounted on the upper edges of the side members and secured thereto by plates 50', 50' and screws 43'. Slidably mounted on the guideway formed by the base plate and the side members is an actuating element comprising a pair of rectangular bars 51, 51 connected together in spaced relation at their opposite ends. One end of the actuating element is connected by a screw 52 to the slide 13 for actuation thereby and a pair of guide elements 53, 53 fixed to the inner faces of the side members 50, 50 engage the upper faces of the actuating element members 51, 51 to hold them against any movement other than endwise.

Pivotally mounted on the actuating element adjacent the distal end thereof and disposed between the members 51, 51 is a swinging cam element 54 normally urged by a spring 55 into engagement with a stop pin 56 as best shown in Fig. 2. When a coin is inserted in the slide mechanism 13, the slide can be moved into the case and this will move the actuating element with it causing the end of the cam 54 to engage the roller 57 carried by the push rod 42 and to be caused to swing against the bias of the spring 55 to the position shown in dotted lines in Fig. 3 and thence under and past the roller at which time the spring 55 will swing it back into its normal position. Then as the slide 13 is pulled back to its starting position the curved upper surface of the cam will engage the roller 57 (see Fig. 5), and elevate the push rod 42 until the notch 58 in the side thereof is engaged by the latch 59 slidably mounted in the block 43. Externally of the block 43, the latch is connected by a pin 60 to one end of the armature 61 of a solenoid 62 secured to a pair of bars 63, 63 attached to the sides of the block 43 and extending toward the rear of the device (see Fig. 7). Adjacent the connection with the end of the latch, the armature 61 carries a laterally disposed cross bar 64, the ends of which are engaged by a pair of tension springs 65, 65 which at their other ends are attached to pins 66, 66 carried by the bars 63, 63 and which tend constantly to move the armature and latch toward the push rod 42 to insure the latching action when the push rod is raised by the cam 54.

Mounted on the upper face of the block 43 and insulated therefrom is a metal sleeve 67 disposed concentrically with respect to the push rod 42 and the lifting element 38 carried thereby. A spring contact member 68 is mounted on the interior of the sleeve and is insulated therefrom and is positioned to be contacted by the contact point 69 on the lifting element 38 only when that element is raised to the latched position of the push rod shown in Fig. 2. Exteriorly of the sleeve, the contact 68 is electrically connected to a binding post 70 to which certain leads of the electrical system are connected as will be described in connection with the description of Fig. 8. The exterior of the sleeve 67 carries a binding post 71 to which other leads of the electrical system are connected as will also be described in connection with Fig. 8.

The coin return means includes a coin holding chute or tube 72 adapted to hold a stack of coins and having its lower end spaced from the supporting base 73 a distance slightly greater than the thickness of one coin. Pivotally mounted on the base 73 is a lever 74 one end of which is adapted to pass beneath the tube 72 and to push a coin therefrom into the hopper or chute 75 extending through the wall 4 of the case. The heads of screws 76 and 77 threaded into the base 73 serve as stops to limit the extent of movement of the lever 74 and a tension spring 78 normally holds the lever retracted from beneath the tube 72 and against the stop screw 77. Preferably, the coin engaging edge of the lever 74 is slightly concave to prevent side-wise movement of a coin when engaged thereby. The opposite end of the lever 74 is connected by a rod 79 with the armature 80 of a solenoid 81 mounted on the bottom 3 of the case. The armature also carries an upwardly extending arm 82 adapted upon energizing the solenoid and movement of the armature to engage an actuating arm 83 of a normally open microswitch 84. Additionally, the armature also carries a laterally extending striker 85 adapted to contact a bell 86 mounted on the wall 7 of the case.

The bottom 19 and side wall of the playing area are connected in series with the secondary coil 87 of a transformer 88 and with the field coil 89 of a solenoid 90 mounted on the under side of the cover 8. The playing pieces are of metal and so long as one of them is in contact with the bottom 19 and side wall 24, the circuit

is closed and will cause the hingedly mounted armature 91' of the relay to maintain a perforated stop plate 91 moved out of line with perforations in a lock mechanism 92 fixed to the under side of the cover 8 and including a button 93 extending through the cover. When the circuit is broken as by first stacking all but one of the playing pieces on the table 20 and then lifting the last playing piece clear of the bottom 19 and side wall 24, the magnetic pull on the armature 91' will cease and the tension spring 94 attached to the stop plate 91 will move the stop plate so that its perforation is in line with the perforations in the lock mechanism, permitting the button to be pressed downwardly and to contact and close a snap switch 95 carried by a bracket 96 on the upper portion of the front wall 4. Closing this switch completes a circuit through the solenoid 81 causing the armature thereof to move the lever 74 with resultant discharge of a coin into the chute or hopper 75. Since the cover 8 and the parts carried thereby must occasionally be removed from the case for inspection and adjustment of the parts within the case and since the solenoid 89 and its armature as well as the bottom and side wall 24 are electrically connected to the parts mounted in the case, it has been found expedient to employ a four contact plug and socket connection including a socket 97 mounted on the bottom 3 of the case. As is usual with such plug and socket devices the inter-engaging parts are so arranged that they can not be improperly put together. Additionally, if desired, a lamp 98 may be included in the circuit and mounted within the case so that light therefrom will indicate that the device is ready for operation.

Turning now to Fig. 8, one side 99 of the power lead extends through the primary coil 100 of the transformer 88 from which a lead 101 extends to the binding post 70. A second lead 102 extends from the power lead 99 through the plug 97 to one side of the snap switch 95 from the other side of which, a lead 103 extends through the plug 97 to one side of the solenoid 81 and a lead 104 extends from the other side of the solenoid 81 to the binding post 70. The light 98 is connected in series in a lead 105 extending from the lead 102 to the binding post 70. The solenoid 62 is connected in series with the lead 106 and the binding post 71 by leads 106 and 107 and the switch 84 is connected in series between the binding posts 70 and 71 by leads 108 and 109. Leads 110 and 111 connect the switch 47 with the other power line 112. Also, as previously mentioned, the leads 113 and 114 which connect the sidewall 24 and bottom 19 of the playing area with the secondary coil 87 of the transformer and the coil of the solenoid 89 extend through the separable plug connection 97.

The operation of the machine is as follows: Assuming that the machine is in the condition shown in Figs. 1, 3 and 4, the player inserts a coin in the socket in the slide 13 and pushes the slide into the machine as far as it will go, causing the cam 54 to swing under the roller 57 as indicated in dotted lines in Fig. 3 and then to be swung back in its normal position as soon as it has cleared the roller. The slide is then pulled forward as far as it will go and the cam face engaging the roller 57 will lift it and the push rod 42 as well as the parts, including the table 20, supported thereby until the latch 59 is moved into the notch 58 by the spring 65, 65, locking these parts in elevated position. The continued forward movement of the slide locks it against further movement into the case until keyed by the insertion of another coin. This elevation of the table 20 also brings the spring contact member into engagement with the contact point and simultaneously the rod 45 will swing the arm 46 to close the switch 47. When the parts are in this position, current will flow through the lamp circuit comprising leads 99, 105, binding post 70, lead 110, switch 47 and leads 111 and 112. The transformer primary coil 100 is also energized by the circuit including leads 99 and 101, the binding post 70 and leads 110, 111 and 112 with the interposed switch 47. The transformer secondary circuit is connected in series with the field coil 89 of the solenoid 90 so long as at least one of the pieces 33' is in contact with the bottom wall 19 and side wall 24 of the playing area and this will cause the armature 91' to maintain the stop plate out of registry with the perforations in the lock mechanism 92 to render it inoperative.

Due to the fact that the lifting element 38 is insulated from the rest of the mechanism no current can flow from the binding post 70 to the binding post 71 while the parts are in this position. The player then attempts to place the pieces one by one on the table 20 without causing it to tip. If it becomes unbalanced sufficiently to cause the side of the support 36 to contact the sleeve 67, as indicated in dotted lines in Fig. 2, current immediately flows from the binding post 70 through the contacts 68 and 69, thence through the support 36 and sleeve 67 to the binding post 71 and thence through the support 36 and sleeve 67 to the binding post 71 and thence through the solenoid 62 and lead 106 to the lead 101. The armature 61 of the solenoid 62 will pull the latch 59 out of the notch 58 in the push rod and the combined weight of such pieces as are not tipped off of the table by the initial tilting thereof and of the table and its support will cause the table and its lifting means to drop to the position shown in Fig. 3 at which time the upper inner edge of the sleeve 67 will cause the support 36 to assume its normal upright position. This movement opens the contacts 68 and 69 and opens the switch 47 and the machine is thus rendered ready for the next operation.

Assuming now that the player is successful in stacking all but one of the pieces 33' on the table 20 without tilting it, he then lifts the last piece clear of the side and bottom walls 24 and 19 breaking the transformer secondary circuit and allowing the spring 94 to release the locking mechanism. He then presses the button 93 the shank whereof closes the switch 95, whereupon a circuit is closed extending from the leads 99 and 102 through the switch 95 to solenoid 81 and lead 104 to the binding post 70 thence through leads 110, switch 47 and lead 111 to lead 112. The armature 80 will cause a coin to be discharged by the means previously described and incident to that movement, the arm 82 will close switch 84 which is in series with the binding post 71 and therefore will operate to energize solenoid 62 in the same manner as though the table had been tipped and set the machine for the next player.

While in the foregoing specification, I have described and illustrated one mode of execution of my invention, I do not intend thereby to limit myself to the exact form disclosed, and the invention includes all such modifications of parts and of the construction, combination and ar-

rangement of parts as shall come within the purview of the appended claims.

I claim:

1. In a coin-released game of skill, a base, a wall structure defining an enclosed playing area containing a plurality of flat sided playing elements mounted on said base, a manually operable hook freely mounted in an opening in the wall structure adapted to engage said elements, a vertically movable balanced table member projecting through the bottom wall of said playing area, a coin released, manually operable means for elevating said table, a latch carried by said base and to support said table in elevated position and means effective to release said latch with incident dropping of said table when the table is caused to tilt to a predetermined extent by improper placing of said playing pieces thereon.

2. In an electrically operated, coin released game of skill, a hollow base enclosing operating devices therefore, an enclosed playing field disposed on the top of said base, comprising a transparent, dome-shaped top portion, an electrically conductive side wall and an electrically conductive bottom wall insulated from said side wall, a plurality of electrically conductive playing elements contained in said playing field and normally effective to maintain electrically conductive connection between said side and bottom walls, means extending through said dome for transporting said playing elements to a supporting surface out of electrical contact with said walls, coin released devices operable to render said game operative for playing, a manually releasable, electrically operated coin return means including electrically operated devices operably connected with said coin return means effective to prevent operation of said return means when electrical connection between side and bottom walls through one or more of said playing elements exists.

3. In an electrically operated, coin-released game of skill, an enclosed playing area comprising a transparent, top portion having an opening at the top thereof, a metal side wall and a metal bottom wall electrically insulated from said side wall, an opening in said bottom wall, a vertically movable balanced table member extending through said opening in said bottom wall, coin-released, manually operable means for elevating said table, a latch effective to lock said table in elevated position, a plurality of electrically conductive playing elements in said playing area, means extending through said top portion for transporting said elements to said table, and electrically operated means effective to drop said table if said table should be unbalanced and tilted to a predetermined extent by the incorrect placement of said elements thereon.

4. In an electrically operated, coin released game of skill an enclosed playing area comprising a transparent top portion having an opening therethrough, a circular metal side wall and a frusto-conical metal bottom wall electrically insulated from said side wall, a plurality of metal playing elements in said area and normally caused to contact said side wall by the slope of said bottom wall and thereby to complete an electrical circuit between said walls, a vertically movable balanced table member extending through said opening in said bottom wall, coin-released, manually operable means for elevating said table, a latch effective to lock said table in elevated position, means extending through said top portion for transporting said elements to said table, and electrically operated means effective to drop said table if said table should be unbalanced and tilted to a predetermined extent by the incorrect placement of said elements thereon.

5. In an electrically operated, coin-released game of skill, an enclosed playing area comprising a transparent top portion having an opening at the top thereof, a metal side wall and a metal bottom wall electrically insulated from said side wall, an opening in said bottom wall, a vertically movable balanced table member extending through said opening in said bottom wall, coin-released, manually operable means for elevating said table, a latch effective to lock said table in elevated position, a plurality of electrically conductive playing elements in said playing area, means extending through said top portion for transporting said elements to said table, electrically operated means effective to drop said table if said table should be unbalanced and tilted to a predetermined extent by the incorrect placement of said elements thereon, and a manually releasable coin return means including electrically controlled devices effective to prevent operation of said return means except when electrical connection between said bottom and side walls is interrupted by the removal of all playing elements from contact therewith.

6. In an electrically operated, coin released game of skill, an enclosed playing area comprising a transparent top portion having an opening therethrough, a circular metal side wall and a frusto-conical metal bottom wall electrically insulated from said side wall, a plurality of metal playing elements in said area and normally caused to contact said side wall by the slope of said bottom wall and thereby to complete an electrical circuit between said walls, a vertically movable balanced table member extending through said opening in said bottom wall, coin-released, manually operable means for elevating said table, a latch effective to lock said table in elevated position, means extending through said top portion for transporting said elements to said table, electrically operated means effective to drop said table if said table should be unbalanced and tilted to a predetermined extent by the incorrect placement of said elements thereon, and a manually releasable coin return means including electrically controlled devices effective to prevent operation of said return means except when electrical connection between said bottom and side walls is interrupted by the removal of all playing elements from contact therewith.

7. In a coin-released game of skill, a wall structure defining an enclosed playing area containing a plurality of flat sided playing elements, a manually operable hook freely mounted in an opening in the wall structure constructed and arranged to engage and transport said elements, a vertically movable, balanced table member projecting through the bottom wall of said playing area, a coin released, manually operable means for rendering the game operative for playing comprising a coin released manually operable element, a cam connected to and reciprocated by said element, a frame structure including guide means for a vertically reciprocable push rod disposed above the path of travel of said cam, an electrically conductive, table supporting element carried by and insulated from said push rod, a metal sleeve carried by and insulated from said guide means and disposed concentrically with respect to said push rod, electrical contact means

arranged to be closed when said push rod is at its highest position, a spring biased latch effective to lock said push rod when raised by said cam, a normally open switch mechanically connected to said push rod and positioned to be closed when the push rod is elevated by said cam, a solenoid attached to said latch, electrical leads affording a means of connection to a source of electrical energy and other leads connecting said first leads with said contact means, sleeve, switch and solenoid arranged so that in the event said table is tilted sufficiently to contact said sleeve, a circuit will be closed through said solenoid and the armature thereof will be caused to release said latch and allow the push rod and table to drop and render the game inoperative until reset by insertion of another coin.

8. In an electrically operated coin released game of skill, a hollow base portion, a removable cover on said base having a central opening therethrough, an enclosed playing field mounted on said cover comprising a transparent top portion having an opening therethrough, a metal side wall and a metal bottom wall electrically insulated from said side wall and having a centrally disposed opening in alignment with the opening in said cover, a series of metal cubes in said playing field having holes or sockets in the sides thereof, a rod extending through the opening in said top portion having a hook adapted to engage the sockets in said cubes for lifting the same, a vertically movable, balanced table member projecting through the bottom wall of said playing area, a coin released, manually operable means for elevating said table, a spring biased latch operable to lock said table in elevated position and release means connected to withdraw said latch from table supporting position when the table is caused to tilt to a predetermined extent by improper placing of said playing pieces thereon.

9. In an electrically operated coin released game of skill, a hollow base portion, a removable cover on said base having a central opening therethrough, an enclosed playing field mounted on said cover comprising a transparent top portion having an opening therethrough, a metal side wall and a metal bottom wall electrically insulated from said side wall and having a centrally disposed opening in alignment with the opening in said cover, a series of metal cubes in said playing field having holes or sockets in the sides thereof, a rod extending through the opening in said top portion having a hook adapted to engage the sockets in said cubes for lifting the same, coin released devices operable to render said game operative for playing, a manually releasable coin return means and electrically operated devices connected thereto effective to prevent operation of said control means when electrical connection between side and bottom walls through one or more of said playing elements exists.

10. In an electrically operated, coin-released game of skill, an enclosed playing area comprising a transparent top portion having an opening therethrough, a circular metal side wall and a frusto-conical metal bottom wall electrically insulated from said side wall, a plurality of metal playing elements in said area and normally caused to contact said side wall by the slope of said bottom wall and thereby to complete an electrical circuit between said walls, a freely dirigible, manually operable arm element mounted in and extending through said opening and terminating in a hook operable by said arm to engage and transport said playing elements to a location in said playing area in which said playing elements are out of electrical contact with said side walls, a playing element supporting surface mounted in said playing area constituting said location, coin released devices operable to render said game operative for playing, a manually controlled coin return means and electrically operated devices connected thereto effective to prevent operation of said return means when electrical connection between side and bottom walls through one or more of said playing elements exists.

11. In an electrically operated coin released game of skill, a hollow base portion, a removable cover on said base having a central opening therethrough, an enclosed playing field mounted on said cover comprising a transparent top portion having an opening therethrough, a metal side wall and a metal bottom wall electrically insulated from said side wall and having a centrally disposed opening in alignment with the opening in said cover, a series of metal cubes in said playing field having holes or sockets in the sides thereof, a rod extending through the opening in said top portion having a hook adapted to engage the sockets in said cubes for lifting the same, a table in said playing field having a downwardly extending portion loosely engaging said supporting element, operating means comprising a coin released manually operable element, a cam connected to and reciprocated by said element, a frame structure including guide means for a vertically reciprocable push rod disposed above the path of travel of said cam, an electrically conductive, table supporting element carried by and insulated from said push rod, a metal sleeve carried by and insulated from said guide means and disposed concentrically with respect to said push rod, electrical contact means arranged to be closed when said push rod is at its highest position, a spring biased latch effective to lock said push rod when raised by said cam, a normally open switch mechanically connected to said push rod and adapted to be closed when the push rod is elevated by said cam, a solenoid attached to said latch, electrical leads affording a means of connection to a source of electrical energy and other leads connecting said first leads with said contact means, sleeve, switch and solenoid arranged so that in the event said table is tilted sufficiently to contact said sleeve, a circuit will be closed through said solenoid and the armature thereof will be caused to release said latch and allow the push rod and table to drop and render the game inoperative until reset by insertion of another coin.

12. In an electrically operated, coin released game of skill, a hollow base enclosing operating devices therefore, an enclosed playing field disposed on the top of said base, comprising a transparent, dome-shaped top portion, an electrically conductive side wall and an electrically conductive bottom wall insulated from said side wall, a plurality of electrically conductive playing elements contained in said playing field and normally effective to maintain electrically conductive connection between said side and bottom walls, means extending through said dome for transporting said playing elements to a surface removed from said walls, coin released devices operable to render said game operative for playing comprising a coin released manually operable element, a cam connected to and reciprocated by said element, a frame structure including guide

means for a vertically reciprocable push rod disposed above the path of travel of said cam, an electrically conductive, table supporting element carried by and insulated from said guide means and disposed concentrically with respect to said push rod, electrical contact means arranged to be closed when said push rod is at its highest position, a spring biased latch effective to lock said push rod when raised by said cam, a normally open switch mechanically connected to said push rod and arranged to be closed when the push rod is elevated by said cam, a solenoid attached to said latch, electrical leads affording a means of connection to a source of electrical energy and other leads connecting said first leads with said contact means, sleeve, switch and solenoid arranged so that in the event said table is tilted sufficiently to contact said sleeve, a circuit will be closed through said solenoid and the armature thereof will be caused to release said latch and allow the push rod and table to drop and render the game inoperative until reset by insertion of another coin.

13. In an electrically operated coin-released game of skill, a base, a wall structure defining an enclosed playing area containing a plurality of flat sided playing elements, mounted on said base a manually operable hook freely mounted in an opening in the wall structure adapted to engage said elements, a vertically movable, balanced table member projecting through the bottom wall of said playing area, a coin released, manually operable means for elevating said table, a latch carried by said base normally effective to lock said table in elevated position and electrically operable means effective to release said latch with incident dropping of said table when the table is caused to tilt to a predetermined extent by improper placing of said playing pieces thereon.

14. In an electrically operated, coin released game of skill, a hollow base enclosing operating devices therefore; an enclosed playing field disposed on the top of said base, comprising a transparent, dome-shaped top portion, an electrically conductive side wall and an electrically conductive bottom wall insulated from said side wall, a plurality of electrically conductive playing elements contained in said playing field and normally effective to maintain electrically conductive connection between said side and bottom walls, means extending through said dome for transporting said playing elements to a position removed from said walls, coin released devices operable to render said game operative for playing, a manually releasable coin return means, and electrically operated devices effective to prevent operation of said coin return means when electrical connection between side and bottom walls through one or more of said playing elements exists; said last-named devices comprising a solenoid having the field coil thereof connected in series in an electrical circuit including said side wall said bottom wall and at least one playing element, and having its armature connected to a spring biased perforated slide element carried by guide means having a perforation disposed in alignment with a perforation in said side element when said slide element is at one extreme of its movement, a push button extending through said base to the interior thereof and having a portion positioned to pass through the perforations in said slide and guide means when said circuit through said side and bottom walls is broken with resultant release of said armature, and a switch positioned to be engaged by said push button incident to its movement through said perforations connected to operate said coin return means.

15. In an electrically operated, coin released game of skill, a hollow base enclosing operating devices therefore, an enclosed playing field disposed on the top of said base, comprising a transparent, dome-shaped top portion, an electrically conductive side wall and an electrically conductive bottom wall insulated from said side wall, a plurality of electrically conductive playing elements contained in said playing field and normally effective to maintain electrically conductive connection between said side and bottom walls, means extending through said dome for transporting said playing elements to a non-conductive location in said playing field, coin released devices operable to render said game operative for playing, a manually releasable coin return means and electrically operated devices associated therewith effective to prevent operation of said control means when electrical connection between side and bottom walls through one or more of said playing elements exists; said last-named devices comprising a solenoid having the field coil thereof connected in series in an electrical circuit including said side wall said bottom wall and at least one playing element and having its armature connected to a spring biased perforated slide element carried by guide means having a perforation disposed to be in alignment with the perforation in said slide element when the latter is moved to one extreme of its movement, a push button extending through said base to the interior thereof and having a portion adapted to pass through the perforations in said slide and guide means when said circuit through said side and bottom walls is broken with resultant release of said armature, a switch positioned to be engaged by said push button incident to its movement through said perforations, a second solenoid connected to said switch for actuation thereby effective to operate said coin return devices, and operated by said coin return devices effective to render said game inoperative for play.

16. In a coin-released game of skill, a base, a wall structure defining an enclosed playing area containing a plurality of flat sided playing elements mounted on said base, a manually operable hook freely mounted in an opening in the wall structure adapted to engage and transport said elements, a vertically movable, balanced table member projecting through the bottom wall of said playing area, a coin released, manually operable means for elevating said table, a latch carried by said base and normally effective to support said table in elevated position, means effective to release said latch when the table is caused to tilt to a predetermined extent by improper placing of said playing pieces thereon, and manually releasable coin return devices effective to return a coin only when the objective of the game has been met by the player.

17. In a coin-released game of skill, a base, a wall structure defining an enclosed playing area containing a plurality of flat sided playing elements mounted on said base, a manually operable hook freely mounted in an opening in the wall structure adapted to engage and transport said elements, a vertically movable balanced table member projecting through the bottom wall of said playing area, a coin released, manually operable means for elevating said table, a latch

carried by said base and normally effective to support said table in elevated position, means effective to release said latch when the table is caused to tilt to a predetermined extent by improper placing of said playing pieces thereon, manually releasable coin return devices effective to return a coin only when the objective of the game has been met by the player, and means operated by said coin return devices effective to render said game inoperative for play.

18. In an electrically operated, coin released game of skill, a hollow base enclosing operating devices therefore; an enclosed playing field disposed on the top of said base, comprising a transparent, dome-shaped top portion, an electrically conductive side wall and an electrically conductive bottom wall insulated from said side wall, a plurality of electrically conductive playing elements contained in said playing field and normally effective to maintain electrically conductive connection between said side and bottom walls, means extending through said dome for transporting said playing elements to a non-conductive position, coin released devices operable to render said game operative for playing, a manually releasable coin return means and electrically operated devices associated therewith effective to prevent operation of said control means when electrical connection between side and bottom walls through one or more of said playing elements exists; said last-named devices comprising a solenoid having the field coil thereof connected in series in an electrical circuit including said side wall said bottom wall and at least one playing element, and having its armature connected to a spring biased perforated slide element carried by guide means having a perforation disposed to be aligned with the slide element perforation when the latter is at one end of its movement, a push button extending through said base to the interior thereof and having a portion positioned to pass through the perforations in said slide and guide means when said circuit through said side and bottom walls is broken with resultant release of said armature, a switch positioned to be engaged by said push button incident to its movement through said perforations, a solenoid connected to said switch for actuation thereby, and coin return devices operated by said solenoid; said coin return devices comprising a base, a coin stack holder tube having the lower end thereof spaced from said base slightly more than the thickness of a coin to be stacked in said tube, a lever having one end thereof disposed to pass beneath said tube and to push the lowermost coin from the stack of coins into a hopper accessible from the exterior of the base, and a link connecting the lever to the armature of said solenoid for actuation thereby.

19. In a skill game apparatus, a base, a wall structure defining an enclosed playing area containing a plurality of flat-sided playing elements mounted on said base, a freely dirigible manually operable arm element mounted in and extending through an opening in said wall structure and terminating in a hook operable by said arm to engage and transport said playing elements within said playing area, a vertically movable, balanced table member projecting through the bottom wall of said playing area, manually operable means for elevating said table member, a latch carried by said base and normally effective to support said table in elevated position, and means effective to release said latch with incident dropping of said table when the table is caused to tilt to a predetermined extent by the improper placing of playing pieces thereon.

20. In a skill game apparatus, a base, a wall structure defining an enclosed playing area containing a plurality of flat-sided playing elements mounted on said base, a freely dirigible manually operable arm element mounted in and extending through an opening in said wall structure and terminating in a hook operable by said arm to engage and transport said playing elements within said playing area, a vertically movable, balanced table member projecting through the bottom wall of said playing area, manually operable means for elevating said table member, a latch carried by said base and normally effective to support said table in elevated position, means effective to release said latch with incident dropping of said table when the table is caused to tilt to a predetermined extent by the improper placing of playing pieces thereon, and devices effective to restore said table to a balanced position when the table is caused to drop.

CHESTER A. FRICK.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,368,088	Brewer	Jan. 30, 1945