

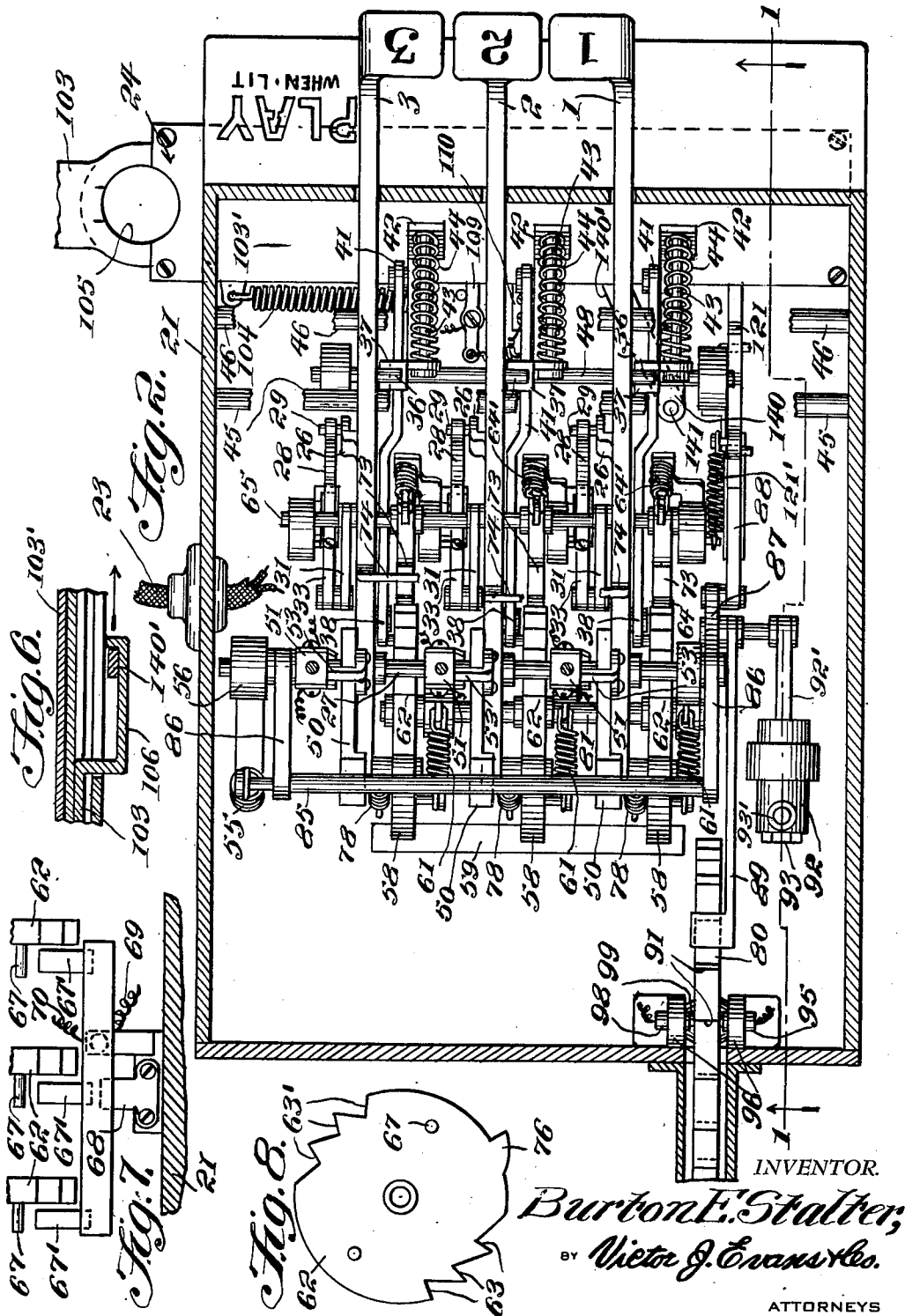
June 9, 1953

B. E. STALTER
CHANCE APPARATUS

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Filed Dec. 11, 1947

5 Sheets-Sheet 2



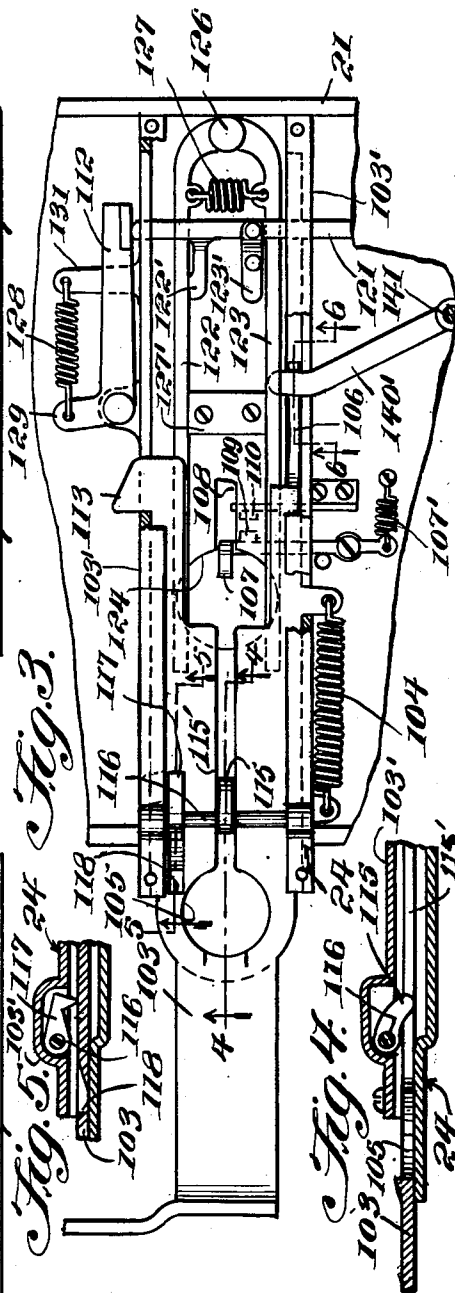
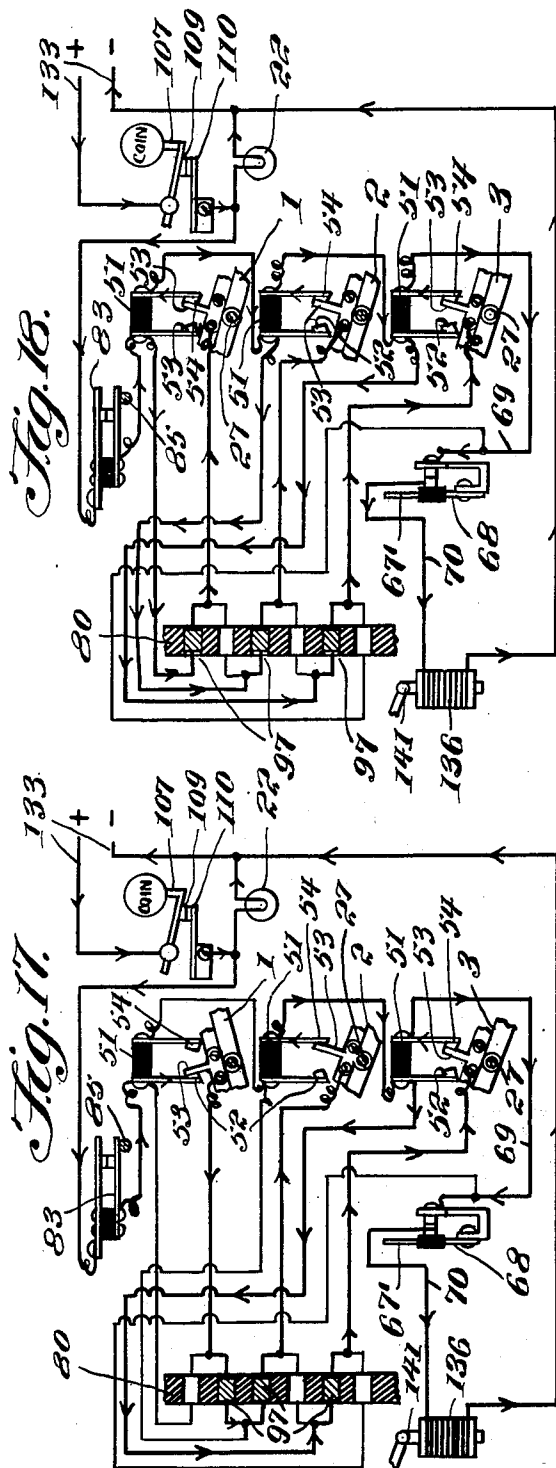
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5 Sheets-Sheet 3



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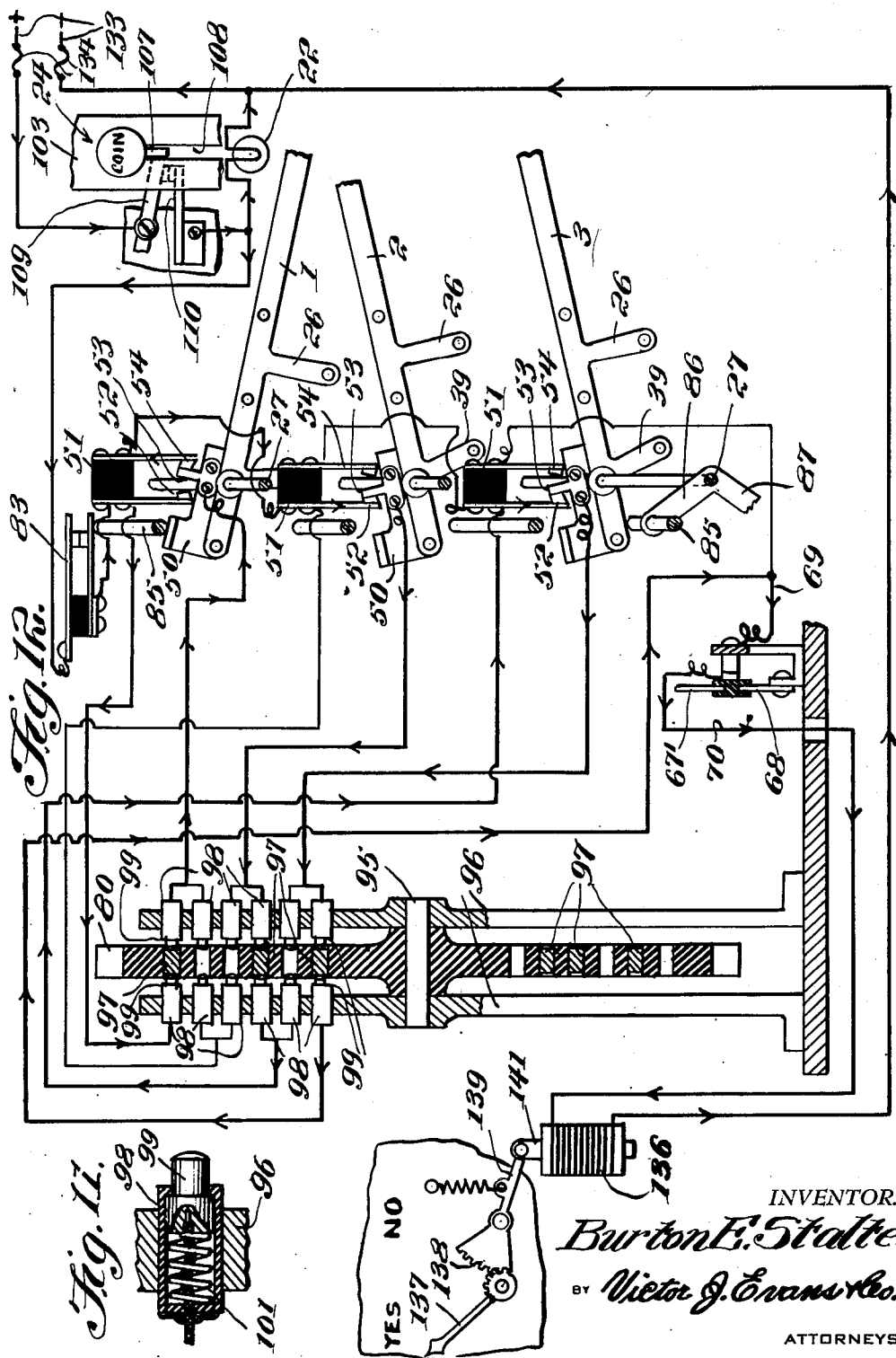
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5 Sheets-Sheet 4



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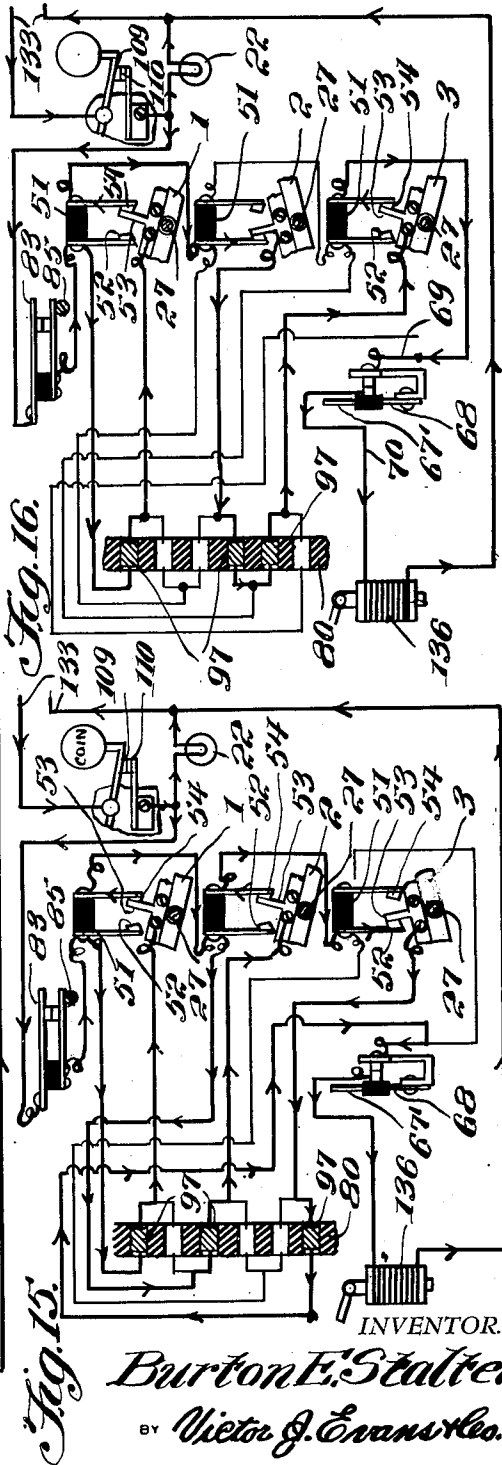
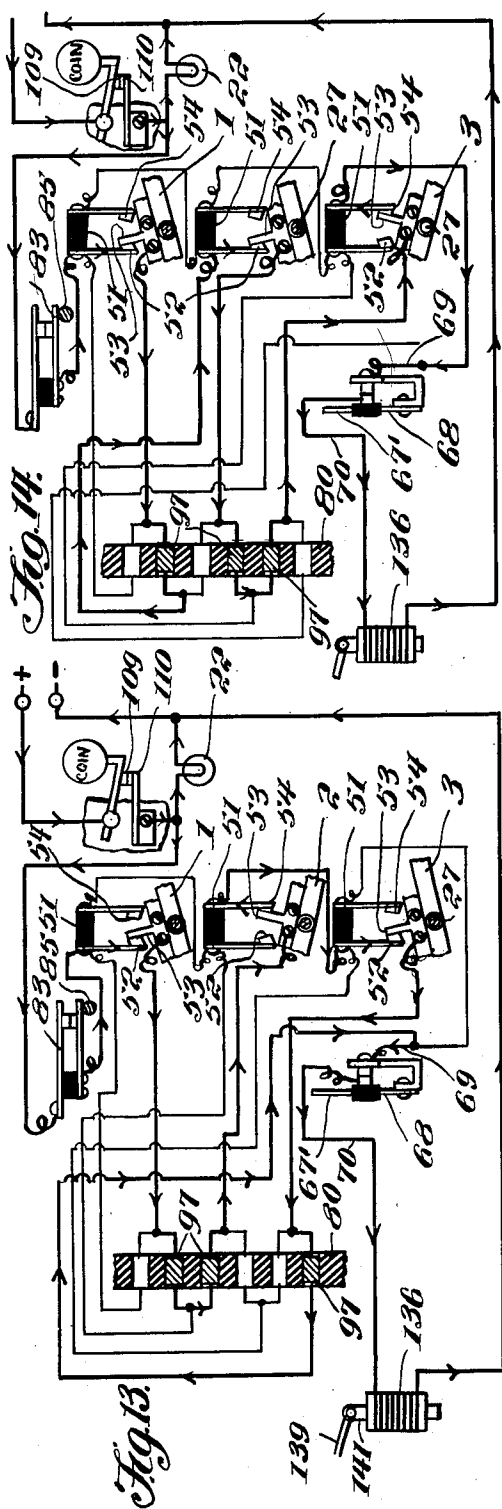
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5 Sheets-Sheet 5



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7 Claims. (Cl. 273-138)

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This invention relates to amusement devices and more particularly to devices of the character wherein there is a contest between the player and the machine.

It is an object of the present invention to provide an amusement device in which the player attempts to guess the particular combination of a group of keys which, when depressed, will constitute a winning play.

It is another object of the invention to provide a device adapted to receive coins and so arranged that the machine may not be played without the previous insertion of a coin of suitable denomination. The coin operation is desirable where the machine is located in a public place but where the machine is individually owned the coin control mechanism may be omitted and manual control such as a push-button substituted therefor.

Other objects of the present invention are to provide an amusement device of this character which is of simple construction, has a minimum number of parts, each of which is designed and arranged so that there is little opportunity for breakage, and which will be inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a longitudinal vertical section through an amusement device constructed in accordance with the invention, taken substantially on line 1-1 of Fig. 2, the inner mechanism being shown substantially in side elevation, with some parts being broken away and other parts being shown in section.

Fig. 2 is a longitudinal horizontal sectional view taken through the casing near its top, the inner mechanism being shown in top plan, some parts being shown fragmentarily.

Fig. 3 is a fragmentary and enlarged plan view of the coin receiving mechanism.

Fig. 4 is a detail sectional view taken on line 4-4 of Fig. 3.

Fig. 5 is a fragmentary sectional view taken on line 5-5 of Fig. 3.

Fig. 6 is a fragmentary sectional view taken on the line 6-6 of Fig. 3.

Fig. 7 is a sectional view taken on line 7-7 of Fig. 1.

Fig. 8 is a side elevational view of one of the rack discs.

Fig. 9 is a sectional view taken on line 9-9 of Fig. 1 and looking upon the interlocking portions extending between the operating levers.

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Fig. 10 is a front elevation of the lower portion of the locking mechanism for the operating levers.

Fig. 11 is a fragmentary and sectional view of one of the contact terminals.

Fig. 12 is a schematic wiring diagram for the electric circuit when the No. 1 lever is moved to the down position.

Fig. 13 is a wiring diagram showing the arrangement of the switches when the No. 2 lever is down.

Fig. 14 is a wiring diagram showing the arrangement of the circuits when the No. 3 lever is down.

Fig. 15 is a wiring diagram of the system showing the arrangement of the switches when Nos. 1 and 2 levers are down.

Fig. 16 is a wiring diagram of the system showing the arrangement of the switches when Nos. 1 and 3 levers are down.

Fig. 17 is a wiring diagram of the system showing the arrangement of the switches when Nos. 2 and 3 levers are down, and

Fig. 18 is a wiring diagram of the system showing the arrangement of the switches when all three levers are down.

Referring now to the figures, 21 represents a casing preferably of metal in which the working parts of the device are housed. Three levers numbered 1, 2 and 3 extend from the casing and are arranged to operate respectively three single pole, double throw switches in conjunction with a code wheel, protective cut-out mechanism, coin operated playing release, and winning indicator mechanism. A small pilot lamp 22, when on, will indicate that the device is ready to be played. Current is supplied to the device through a cord 23 which may be connected to any wall receptacle. The coin receiving device extends from the machine and is indicated at 24. The only parts thus extending from the machine are the operating levers, the electrical cord and the coin receiver slide.

There are seven different plays possible by the use of the three levers, as they may be used individually, in pairs, or all three at the will of the operator. Each depression of a selected lever or combination of levers constitutes a separate play. The success of the player depends solely upon his skill in guessing the proper play at the right time. Obviously, if desired, a greater number of playing levers may be used and the number of combinations may accordingly be increased.

In the invention, there is included a key cycle control, constituting a means for permitting depression of each lever while yet preventing its return until a full down stroke is completed.

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Figure 1 best illustrates the construction of this means. Each of the levers 1, 2, 3, is integral with a depending arm 26. This is disposed between a pivotal connection 27, that is the fulcrum point of the lever, and the lever handle. An arcuate rack bar 28 normally engages a lateral stud 29 on the lower end of the arm 26.

Pivotaly connected to each lever, adjacent the arm 26, is a depending bar 31. Near the lower end of the bar, there is formed therein a short longitudinal slot 32. By means of a pivotal connection extending through the slot 32, one end of a rocker arm 33 is joined to the bar. Rocker arm 33 is provided, intermediate its ends, with a notched depending ear 33'. Yieldably engaging the ear is a spring-pressed detent 34.

The rocker arm 33 is fulcrumed on a pivot pin 35. This also serves as a pivotal mounting for the lower end of the rack bar. The rocker arm has a forward extension 34' against which the rack bar is pressed by a spring 35' fixedly connected at one end to the rocker arm.

Normally, the spring-pressed detent 34 engages in the forwardmost of two notches of the ear 33', as shown in Figure 1, wherein the parts are illustrated in their normal position. When the player depresses the lever, however, the stud 29 slips over the teeth of the rack bar, spring 35' yielding as necessary to permit this, but nevertheless continuously pressing the rack bar forwardly so that the lever will be engaged against return movement if released in any intermediate position.

The bar 31, meanwhile, is being moved downwardly, but does not as yet disturb the rocker arm 33, due to the lost motion connection defined by the slot 32.

Just as the full extent of downward travel of the lever is about to be completed, the upper end of the slot 32 engages the pivot element connecting the rocker arm 33 to the bar 31. As a result, motion is now imparted to the rocker arm which, as the downward travel of the lever is completed, causes the extension 34' to carry the rack bar out of contact with the stud 29.

The lever is thereby released for return travel, and simultaneously, the detent 34 is engaged in the other notch of the depending bar 33'. This holds the rocker arm in its new position, so as to prevent, for the moment, the rack bar from swinging back into its normal position.

As the lever completes its return travel, the lower end of the slot 32 engages the rocker arm, and returns it, and of course the rack bar, to normal position.

Referring to Figure 2, it is seen that each of the levers 1, 2, and 3, is provided with an identical means of the type described.

The invention further embodies means for holding the levers normally locked, until released for play by a control mechanism that in the present instance is coin-actuated, and for interlocking them during the play in a manner to prevent additional levers being added after the play has started and the player has begun to depress the particular lever or levers he has chosen.

The control mechanism will be described hereinafter. For the present, the description will be confined to the lever locking means. Referring to Figure 1, there is a lateral projection 36 on each lever between the arm 26 and the handle end of the lever. This is above, and thus is normally engaged by, the upper end of a latch bar 37, thereby normally preventing depression of the

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lever. Each latch bar 37 has a normally vertical portion, and a short downwardly inclined portion 37'. A weight 47 is carried by the inclined portion 37'.

Each latch bar 37 is fulcrumed on a pivot shaft 48 extended horizontally and transversely of the machine, spaced stops 45 and 46, disposed at opposite sides of the latch bar, defining the extent of swinging movement permitted the bar.

Also pivoted on the shaft 48 is a lock bar 42. This also is angular, having an upwardly and forwardly inclined portion and a depending portion. Rigidly connected to and extending rearwardly from the upper portion is an arcuate rod 43, surrounded by a spring 44 continuously held under compression. The rod 43 has its other end extended through, and slidable in, an ear formed on the latch bar 37. The rod is headed at this end, to prevent withdrawal through the ear.

The depending portions of the several lock bars 42 are all rigid with a master lock bar 42'. This extends transversely of all the levers 1, 2, and 3, and is best shown in Figure 10. The lock bars 42 therefore have joint movement, as distinguished from the latch bars 37, which are not so joined.

Normally, the latch bars 37 and the lock bars 42 are in the full line positions shown in Figure 1. This is their position when the machine is not in use. They are held in this position because a cam 140 is pressing the master lock bar forwardly, as shown in Figure 1. This cam will be described in detail hereinafter. For the present, it is sufficient to state that its position is controlled by the coin mechanism. When the cam is in the full line position in Figure 1, before insertion of a coin, the several springs 44, pressing against the ears of the latch bars 37, press the latch bars against the stops 45. Therefore, any attempt to depress the levers will only bring the projections 36 thereof against the upper ends of the latch bars.

However, if the cam 140 is moved away from the master lock bar, as it would be by operation of the coin mechanism, thus permitting backward travel of the master lock bar, the weights 47 will immediately drop to the dotted line positions shown, bringing the latch bars 37 against the stops 46, and thus will permit depression of the levers. Explaining this in more detail, if the cam 140 is moved out away, each associated latch bar 37, weight 47, lock bar 42, rod 43, and spring 44 will all move as a unit to the dotted line positions shown, with the lock bar 42 moving simultaneously with latch bar 37, by reason of the pressure of the spring 44. Spring 44 does not expand in this operation, since it is already at its full limit of expansion, as determined by the length of the rod 43. The spring actually amounts, during this particular operation, to a rigid connection between the latch and lock bar.

The levers 1, 2, 3, are now free and can be depressed. It is pertinent to describe at this point, accordingly, the means for preventing the addition of non-selected levers after initiation of the play.

Integral with each lever, and disposed approximately at its fulcrum point, is an arm 39 (Figure 1). The free end of this arm has a lateral pin 38, whereby the arm is held pivotally connected to the rear end of a long link 41, the other end of which is pivotally joined to the free end of lock bar 42. At the pivotal connection 38, link 41 is formed with a short longitudinal

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slot 40. Thus, the connection between arm 39 and link 41 is a lost motion connection.

When the lever is depressed, the slot 49 permits sufficient travel of the lever as to allow its projection 36 to move downwardly past the upper end of the latch bar 37 (now against stop 46). This much downward travel of the lever is permitted without disturbing link 41 and, therefore, lock bar 42.

However, as soon as the projection has cleared the latch bar, arm 39 engages link 41 and begins to urge it rearwardly. Therefore, the particular lock bar 42 connected to the link is also moved rearwardly, as are all the other lock bars 42, since they are all connected for joint movement.

This causes springs 44 to urge rearwardly, against stops 45, those latch bars 37 associated with levers not chosen by the player. Therefore, these levers can not be brought into the play after the play has started. All movements described in this paragraph and that immediately preceding occur as soon as the chosen lever or levers clear their associated latch bars.

So far as the chosen lever or levers is concerned, its associated latch bar 37 will not move rearwardly against stop 45 because the projection 36 will be interposed therebetween. In this case, spring 44 compresses as necessary, and rod 43 simply slides rearwardly in the ear of the latch bar.

The description so far provided relates to (1) a means for requiring full travel of selected levers; (2) a means that normally locks the levers against use; and (3) a means that interlocks them during use against the addition of levers other than those selected, the last two lever control means being combined in a single mechanism.

Mechanisms which the levers themselves control will now be described.

First among these is a circuit control means including switches associated each with a lever.

Fixed to the inner end of each lever is an upstanding plate 50 (see Fig. 1). In the present instance, these are substantially L-shaped. Secured to the casing top, above each plate, is a double-throw switch 51, having opposed contacts 52 and 54. A contact member 53 is secured to the plate 50. This is positioned for engagement with contact 52 when the lever is in normal position, and with contact 54 when the lever is depressed. A circuit including contact 52 and contact member 53 is normally closed. However, double-throw switch 51 opens this circuit when the lever is depressed. Near the end of the downward travel of the lever, the switch closes a circuit including contact 54 and contact member 53. The results accomplished by this circuit arrangement will be described.

The invention embodies means for returning a depressed lever to normal position. I provide for this purpose the spring 55. This suffices for all three levers, and is disposed adjacent one side of the casing 21 (see Figure 2). The lower end of the spring is connected to a fixed bracket 57. This is fixedly secured to one of a plurality of posts 56 that support the pivot shaft 27. The upper end of the spring is connected to one end of a master operating bar 85 extended transversely of the machine (Fig. 2), this being positioned above all the upstanding plates 50 for engagement by any one of them.

Thus, when any lever or combination of levers is depressed, one or more plates 50 elevate the

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master operating bar 85, against the action of the spring 55. When the lever is released for return, spring 55, tending to compress, causes bar 85 to press the engaged plate or plates 50 downwardly, and thus returns the lever or levers to normal position. The bar 85 is carried on the free ends of arms 86, that are pivoted on the ends of pivot shaft 27.

A cut-out switch means will now be described, this being for the purpose of preventing a player from choosing a particular lever or combination, and playing it continuously until he wins.

Pivotaly connected to the inner end of each lever 1, 2, 3, is a depending hook bar 58. The hooked lower end of each hook bar bears against the inclined top surface of an upstanding restraining plate 59, mounted on the bottom of the casing 21 and disposed transversely thereof, so as to be common to all the hook bars. Springs 61 connected to the hook bars 58 and to posts 56 hold the hook bars against the restraining plate.

When a lever is depressed, the hook bar is elevated, and engages a cut-out wheel 62, there being a separate wheel for each lever. This wheel is illustrated separately in Figure 8, and it is there seen that it is formed with a series of notches 63, three in the present instance, that are engageable by the hook bar. On such engagement, rotatable movement is imparted to the wheel by the hook bar, to the extent of one notch for each lever depression. When the lever is returned to normal position, the hook bar again is engaged by the plate 59, which will hold it in normal position, against the action of spring 61, until a subsequent play.

The wheel, when advanced one notch or step as described, is held in the advanced position by a latch member 64 disposed on the opposite side of the wheel (Figure 1). Each latch member 64 is pivoted on a shaft 65, extended transversely of the casing and common to all the latch members, and normally is pressed continuously against the wheel by a spring 64'. Thus, if a hook bar 58 engages the uppermost notch 63 as it appears in Fig. 1 or 8, the associated latch member will be pressed into the lowermost of a diametrically opposed series of notches 63' on the wheel. Then, although the hook bar will be released from its engagement with notch 63 when the lever is returned, latch member 64 will remain engaged in a notch 63', and will hold the wheel in the advanced position. The next play of the same lever will normally advance the wheel 62 associated therewith one more notch or step, with latch member 64 entering the next higher notch and locking the wheel in its new position until the next succeeding play.

On the third and last advancement of a particular wheel 62, a lateral stud 67 thereon is brought against a cutout trip 67', whereby an arm 68 of a cutout switch opens a circuit including leads 69 and 70. There is but one cutout switch, but it is capable of being broken by any of the studs 67', as best shown in Fig. 7. This circuit will remain broken as long as any latch member 64 is engaged in the uppermost notch 63' of its associated wheel.

There is a latch release means provided, however, to release the latch member 64 of any wheel. Each latch member has an angular extension 73 near its upper end, as best shown in Figure 1. Fixedly connected to each lever 1, 2, and 3 is a laterally extended trip arm 74, having a downturned finger 72. Referring to Figure 9, these are each of inverted U-shape, with the vrip

arm of lever 1 bridging lever 2, and having its finger 72 positioned over the latch member of lever 3. The trip arm of lever 2 bridges lever 1, and has its finger over the latch of lever 1; and the arm of lever 3 bridges lever 2, and has its finger positioned for engagement with the latch of lever 2.

Therefore, if lever 1 is depressed, its finger will depress the extension 73 of the latch member of lever 3. It thereby disengages that latch from the cutout wheel 62 associated with lever 3. The engagement of the finger with the latch extension occurs near the end of the downward travel of the lever.

It is seen, then, that each lever advances its own wheel and releases one of the other wheels. When two levers are depressed, one wheel is advanced while two others are released; and when all three levers are depressed, all three wheels are released (see Fig. 9), the normal step-up of the wheels not occurring in this case because there is nothing to hold them in the advanced positions to which they are moved by the hook bars.

Although it would seem from the above that a player could use the combination of three continuously and defeat the purpose of the cutout switch (since this combination can be operated any number of times, successively, without breaking the circuit) it will be seen hereinafter that a code wheel 80, to be described, has only two "combinations of three" out of a total of twenty, while there are three of each of the other six possible combinations therein.

When a wheel 62 is released, it is returned to the normal position shown in Figure 1 by a spring 78, one end of which is attached to the wheel, and the other end of which is attached to the bottom of the casing as at 79. The return travel of the wheel is brought to a stop when the wheel reaches normal position, by a tooth 76 of the wheel coming against a fixed stop 77.

The wheels 62 are each rotatable on a common shaft 81 extended transversely of the casing.

A master switch arrangement is included in the invention. Reference should be had to Figs. 1 and 12. A switch 83, secured to the underside of the casing top, is normally open, and is operated by the master operating bar 85. Almost at the end of the upward movement of the bar, it engages the lower arm of the master switch and closes the switch. As the depressed lever begins its return travel, and the bar is lowered, the switch springs open.

Master switch 83 is not an absolute necessity in the operation of the device but serves to protect the various contacts in the device from normal arc burn. The switch closes at the extreme end of the downward stroke of the levers, after all other contacts have either been opened or closed. It is the first switch to open after the electrical portion of the device has functioned, as the lever begins its upward or return stroke. Practically all arc burns are absorbed by this switch and is the only switch likely to require replacement during the life of the machine.

Actuated by depression of any lever or combination thereof is a code wheel operating means. There is but one code wheel, designated 80, and for the purpose of imparting the desired movement thereto, one of the arms 86 has an elongated depending extension 87 (Fig. 1). When the arm 86 is swung upwardly (by plate 50 elevating bar 85 on depression of a lever) the extension 87 will be swung to the left in Fig. 1, toward the code wheel.

Pivotaly joined to the extension 87 is one end of a hook arm 89. The hook or dog at the free end of this arm engages in any one of a peripheral series of notches 91 on the code wheel. Thus, when extension 87 moves rearwardly during the downward travel of a lever, it carries the hook arm rearwardly also, so that the arm moves out of the notch in which it has been engaged, and drops into the next higher notch.

When the lever is released for return travel, extension 87 now is swung to the right in Fig. 1, due to the pull of spring 55 on the master operating bar 85. Hook arm 89 thus advances the code wheel one twentieth of a revolution, there being twenty notches 91 on the code wheel in the present instance.

It is desirable, as will appear, that the movement of the code wheel be relatively slow. I provide for this through use of a small vacuum dashpot 92 (Figs. 1 and 2) fixedly mounted on a suitable bracket adjacent the hook arm 89. At one end, this has an escape valve 93. Slidable in the other end is the piston, to which is pivotally joined one end of the rod 92'. The rod has a short slot in its other end, receiving the same pivot pin that serves to connect hook arm 89 to extension 87.

When the hook arm is moving to the left in Figure 1, the dashpot does not slow the movement, because the valve 93 permits the quick escape of air on the instroke of the piston. However, on the return movement of the hook arm, during which it is moving the code wheel, a regulated intake valve 93' permits air to enter the dashpot cylinder only slowly, and this acts to slow the return movement of the hook arm.

The purpose of the slot is to permit the initial movement of the hook arm, during its return travel, to be unretarded, to allow the master switch 83 to be opened instantly, upon release of the depressed lever.

The code wheel 80 rotates on a shaft 95 journaled in opposed bearing members 96. The wheel is made of any suitable insulating material, and is provided with a plurality of electrically conductive contacts 97. Reference should be had particularly to Figs. 1 and 12. It is there seen that the wheel is formed with six concentric series of transverse openings, these being arranged in twenty radial rows. Three of the contacts 97 are employed in each row, being fitted into selected openings, the remaining openings of said row not being so plugged. The arrangement of the contacts varies from row to row.

It is the location of the contacts in a particular row that determines whether a winning lever or combination of levers has been selected by the player.

Carried by the opposed bearing members 96 (see Figs. 1, 11, and 12) are brush holders 98. In the present instance, there are six on each member, these being oppositely aligned and disposed radially relative to the axis of the code wheel (Fig. 1). As a result, each advancement of the code wheel brings another radial row of contacts 97 in register with the brush holders 98.

The brush holders carry contacts 99, that are spring-pressed against the opposite faces of the wheel by springs 101. As the wheel advances one step, some of the contacts 99 engage those contacts 97 that are in the new radial row presented. The arrangement of the contacts 97 in said new row determines which of the six pairs of contacts 99 will be so engaged.

By reference to Fig. 12, it may be noted that

the contacts 97 are not fully flush with the opposed faces of the wheel, thus defining shallow recesses into which the contacts 99 are pressed. This permits accurate positioning of the wheel at the end of each advancement. It is because of this construction that the rate of movement of the code wheel is retarded by the dashpot, since it is undesirable that momentum be imparted to the wheel, thereby to prevent the contacts 99 from engaging, and remaining, in the recesses.

Included in the invention is a coin mechanism, designated generally at 24, and best illustrated in Figs. 1 through 6 and (somewhat diagrammatically) in Fig. 12. This serves as a means which when actuated, will close, for one play, a circuit between the house supply and the machine, and which will also unlock the levers for the play.

Projecting from the side of the machine, near its bottom, is a coin slide 103. This is mounted in a substantially flat slide housing 103' (in Fig. 3, the housing cover is removed, to show construction details). A spring 104, connected to the slide and to the housing, yieldably holds the slide normally extended from the device.

A slide control is provided which, should one attempt to operate the slide without a coin, will stop the inward travel of the slide before it can open the machine for a play. Referring to Figs. 3, 4, and 5, pin 116 is journaled in the opposed side walls of the housing 103'. Fixed to the pin is a finger 115, the free end of which normally extends downwardly into a longitudinal slot 115' formed in the coin slide in communication with the coin opening 105.

Also fixed to the pin is a catch 117 (Fig. 5) this normally resting on the coin slide surface near one side edge thereof. If, then, a player pushes the slide inwardly without a coin, catch 117 will drop into a notch 118 formed in the coin slide, almost immediately, and will prevent any further inward movement.

When, however, a coin is used, the coin raises the finger 115 when it passes thereunder, and this simultaneously elevates catch 117 until the notch 118 has passed the catch.

On further inward travel of the coin slide, the inserted coin comes against a pivoted shoe 107 (Figs. 3 and 12) and forces it inwardly in a short slot 108 of the coin slide housing, against the action of a spring 107'. This brings contact 109 of the shoe against fixed contact 110, and closes the circuit to the operating parts of the machine, at the same time closing the circuit including the pilot lamp 22 (Fig. 12). Pilot lamp 22 is positioned below a legend, such as "Play when lit," cut into the casing of the machine. The player is thus advised that the machine is ready for play.

Concurrent with closing of the circuit, the coin slide, during its inward travel, frees the levers for play. Referring to Figs. 3 and 6, the inner end of the coin slide is formed along one side with a downturned yoke arm 106. Positioned in the yoke is one end of a cam-actuating member 140'. This is swung laterally by inward movement of the slide, and thus partially rotates an upwardly extended cam shaft 141, fixedly connected at its lower end to the member 140'. Fixed to the upper end of the cam shaft is the cam 140. The position of the cam 140 is thereby changed, so that it no longer presses against master lock bar 42', and the result is that all the latch bars 37 are permitted to fall, as hereinbefore described, to a position permitting depression of the levers 1, 2, and 3.

The coin slide, when pressed inwardly by the

player, is to be locked at a predetermined point of inward travel, against return to normal extended position. This is for the purpose of keeping the circuit to the machine closed, until completion of the single play.

To this end, I provide a holding dog 112 pivoted to one side of the slide housing 103'. The dog is integral with an angular extension 129 connected to one end of a spring 128. The other end of the spring is connected to an anchor post 131 extending from the slide housing. The holding dog is continuously but yieldably urged toward the slide housing.

The inner end of the coin slide 103 has a hook arm 113, formed with a cam face on the hook portion thereof. When the slide is pressed inwardly, the hook arm cams the dog away from the housing. As soon as the hook arm passes the dog, however, the dog, under the action of its spring, engages behind the hook, and thus locks the coin slide against return movement.

The dog engages behind the hook arm just as the coin moves shoe 107 into circuit-closing position. Thus, the coin slide is locked in its inner position with the coin lodged against shoe 107 and holding the circuit closed, and with the cam actuating member 140' swung to a position in which cam 140 is held away from the master operating bar 42'. The circuit being closed, and the levers free, the single play can now be made.

The bottom of the coin slide housing 103' has a coin discharge opening 124 which is disposed approximately below the shoe 107. The coin drops through this opening at the completion of the play. However, during the play, the coin is supported against dropping by a pair of retaining fingers 122 and 123 (Fig. 3). The coin is slid onto the free ends of these fingers just before it engages shoe 107, and is supported entirely thereby during the play.

The other ends of the fingers are pivotally joined as at 126, and the fingers are yieldably drawn toward each other by a spring 127 extended therebetween. They can move no closer toward each other than the parallel position illustrated, however, because of an intervening stop 127' secured to the floor of the slide housing.

Means are provided for releasing the coin slide immediately upon conclusion of the play, and reference should now be had to Fig. 1. One end of a slide release lever 88 is pivotally connected to the lower end of the extension 37 of arm 86. Accordingly, during downward travel of a lever 1, 2, 3, or combination thereof, the slide release lever will be drawn to the left in Fig. 1.

Tending to press the slide release lever upwardly is a leaf spring 87'. This presses the slide release lever against a pin 88'.

Positioned above the slide release lever 88 is a push rod 121. This is mounted to slide transversely through the coin slide housing 103', as best shown in Figs. 1 and 3. Normally, one end of the push rod contacts the holding dog 112. The extent of travel of the rod in either direction is limited by providing a pin, carried by one of the frame members of the machine, that is received in a short slot formed in the push rod (Fig. 1). The push rod is restrained by a spring 121'.

A tooth 120 is integral with the slide release lever 88, and also formed on the lever 88 is a cam face 88^a. As the release lever is drawn to the left in Fig. 1, the tooth 120 clears the end of the push rod and the cam face presents itself

to pin 88', thereby elevating the lever to a position where tooth 120 can engage the end of the push rod.

The result is that when the operating lever or levers are released by the player for return travel, the slide release lever 88, now moving to the right in Fig. 1, presses the push rod to the right also. The push rod thereby is caused to press holding dog 112 out of engagement with hook arm 113 of the coin slide. The slide, now free, immediately returns under the pull of its spring to normal extended position, awaiting the next play of the machine.

When the coin slide returns, it returns the cam actuating member 140' to normal position, so that cam 140 again becomes normally positioned to prevent depression of any of the operating levers.

The push rod also spreads apart the retaining fingers 122 and 123, so that the coin drops out, thus releasing shoe 107 and opening the circuit. This is accomplished by providing a lateral finger 122', integral with the push rod, that moves retaining finger 122. Also, a finger 123' is pivoted at one end to the push rod, and is fulcrumed intermediate its ends to the bottom of the coin slide housing. This moves retaining finger 123 in the opposite direction.

Referring again to Fig. 1, during the return travel of the slide release lever 88, cam face 88^a again bears against the pin 88', and thus cams the release lever downwardly, disengaging it from the push rod. Spring 121' of the push rod is thus free to return the push rod to its normal position.

The electrical operation of the machine will now be discussed. The current required enters through cord 23, plugged into the house circuit, not shown. The current enters and leaves at 133 (Fig. 12), passing through fuse elements 134.

In Figs. 12 through 18, the path of the current through the various leads can readily be seen for each of the seven possible lever selections, by following the heavy lines and direction arrows. In each case, I have illustrated as an example a winning play. Taking Fig. 12, the player has selected and depressed lever 1, alone, and has won, because that radial row of contacts 97 on the code wheel marked "1" is disposed between the brushes. The contacts of this particular row are so arranged that on depression of lever 1 alone, a continuous circuit will be closed through the complete machine, including a win-indicating mechanism. Had the player selected some other lever or combination thereof, an open circuit would have resulted had contact row "1" been moved to brush-engaging position.

In Fig. 12, wherein lever 1 has been moved to its lower position, the current first passes through contacts 109, 110, held together by the inserted coin. Then, it is led through master switch 83, now closed by the bar 85. The lead from the master switch is to that switch 51 associated with lever 1. Since contact member 53 of this switch has been moved to engage contact 54, and is not in circuit with contact 52, the current is led directly to the code wheel as indicated by the arrows, and passes through contact 97 in the top opening.

Continuing, the current leaves the code wheel, and is now led through contact member 53 of lever 1 and the engaged contact 54. Then, it is led to the switch of lever 2. Here, contact member 53 has been left in engagement with contact 52, lever 2 not having been depressed, so the

path is through these contacts and thence to the code wheel.

Passing through the middle contact 97, the current now is led directly to that switch 51 associated with lever 3. Again, lever 3 has not been depressed, so the current is led through its associated contact member 53 before returning to the code wheel. The current, returning to the code wheel, now passes through the lowest contact 97.

The current is now led to the cut-out switch, and providing this has not been opened by depression, for too many times in succession, of a particular lever or combination thereof, the current moves through this switch, and is led to a solenoid 136. This has its plunger 141 connected pivotally to a spring-restrained arm 139. A segment 138 on the arm is in mesh with pinion on a pivoted indicating arm 137.

The indicating arm travels over a dial, at the top of the casing (Fig. 1), on which is indicated any suitable legend, as for instance, the words "Yes" and "No." Normally, the solenoid 136 is deenergized, and the arm points to "No." However, if the solenoid is energized, as would be the case in the illustrated example, the arm 139 is swung, under the pull of the plunger 141 and against the action of the spring, to the "Yes" marking.

Any type of electrically operated win-indicating means could as well be used, as for instance, a chime, a bell, or a lamp bulb, to state a few examples.

It is not believed necessary, in the light of the above description of Fig. 12, to describe similarly Figs. 13 through 18.

However, one characteristic may be noted throughout, and is worthy of mention. Two of the six openings in each radial row on the code wheel are associated with each lever. The outer pair of openings is associated with lever 1; the middle pair with lever 2; and the inner pair with lever 3. To win, a contact 97 must be in the upper opening (considering Fig. 12) of a particular pair of openings if the lever associated with that pair is depressed; and in the lower opening, if the lever is not depressed. If these conditions are not met, the circuit is open, and of course, the win-indicating means will not be energized.

Note, for example, Fig. 13, illustrating a winning play. Lever 1 should not be depressed, since its associated contact 97 is in the lower of the pair of openings associated with lever 1; lever 2 should be depressed, its contact 97 being in the upper opening of its associated pair; and lever 3 should not be depressed, its associated contact being in the lower opening of the bottom pair of openings. Since all these conditions are met (and assuming the cut-out switch has not been opened) the circuit is closed to the win-indicating means.

This same characteristic can be observed by reference to Figs. 12 and 14 through 18. In each case, the conditions are met for each lever and a win is therefore indicated. This characteristic can also be observed by noting the contact arrangements in the respective contact rows on the code wheel as shown in Fig. 1.

Contacts 97 are removable, so the relative arrangement of the radial rows can therefore be changed as desired, to prevent over-familiarity with the contact row sequence.

It may be worthy of note, further, that it is not critical to the invention that these be ex-

actly twenty contact rows on the code wheel. Nor is there any critical relationship between the number of contact rows and the number of levers. The number of either may be increased or decreased, as desired.

I claim:

1. An amusement apparatus including a plurality of operating levers each mounted for movement independently of the other levers for selective operation individually and in combination, a code wheel, a pair of opposed bearing members rotatably mounting said code wheel, a plurality of electrically conductive contacts that are irregularly spaced apart in said code wheel, a plurality of sets of electrically conductive contacts that are spaced at regular intervals on each of said bearing members in the path of the contacts in said code wheel, an electrical circuit connected to each set of the contacts on said bearing members and the contacts in said code wheel being adapted for selective engagement with the contacts on said bearing members, means responsive to the operation of any lever to advance the code wheel, a lever interpolated in the electrical circuit to each set of contacts on one of said bearing members, a switch interpolated in the electrical circuit to each set of contacts on the other of said bearing members in the path of said levers and each of said circuits being adapted to be closed when the code wheel is in a predetermined position in relation to operation of selected levers to engage their respective selected switches so that certain of the contacts on said code wheels are in engagement with certain of the contacts on said bearing members, and win-indicating means operable upon the movement of each of said levers, whereby each actuation of the levers due to the spacing of the contacts on said code wheel and said bearing members may or may not cause a circuit to the win-indicating means to be energized by the closing of certain of said interengaged circuits.

2. The amusement apparatus as in claim 1 wherein, means is provided to require movement of any lever through substantially its full extent of travel.

3. The amusement apparatus as in claim 1 wherein, spring-pressed rack bars yieldably engage the respective levers to prevent return of any lever to normal position until each lever has been moved through substantially its full extent of travel.

4. The amusement apparatus as in claim 1 wherein latch bars normally engage the respective levers to hold said levers against operation, and means is provided for releasing the latch bars simultaneously and means is also provided for returning to normal position the latch bars of levers not selected for operation on the initiation of movement of the selected levers.

5. The amusement apparatus as in claim 1 wherein a cutout switch is provided in the circuit and means adapted to be operated by said levers is also provided for causing the cut out switch to open on successive operation of the same combination of levers for a predetermined number of times to prevent repetition of the same combination of levers, and means is provided that is responsive to the operation of other levers for closing said switch.

6. An amusement apparatus including a plurality of operating levers each mounted for movement independently of the other levers for selective operation individually and in combination,

means requiring movement of any lever through substantially its full extent of travel for the operation thereof, latch bars normally engaging the respective levers against operation, means for releasing the latch bars simultaneously, means adapted to return to normal position the latch bars of levers not selected for operation on initiation of movement of the selected levers, a code wheel, a pair of opposed bearing members rotatably mounting said code wheel, a plurality of electrically conductive contacts that are spaced at irregular intervals in said code wheel, a plurality of sets of electrically conductive contacts that are spaced at regular intervals on each of said bearing members in the path of the contacts in said code wheel, an electrical circuit connected to each set of the contacts on said bearing members and the contacts in said code wheel being adapted for selective engagement with the contacts on said bearing members, means responsive to operation of any lever adapted to advance the code wheel, a lever interpolated in the electrical circuit to each set of contacts on one of said bearing members, a switch interpolated in the electrical circuit to each set of contacts on the other of said bearing members in the path of said levers and each of said circuits being adapted to be closed when the code wheel is in a predetermined position in relation to operation of selected levers to engage their respective selected switches so that certain of the contacts on said code wheel are in engagement with certain of the contacts on said bearing members, a cut-out switch in each circuit adapted to be opened on successive operation of the same combination of levers for a predetermined number of times, means responsive to the operation of other levers for closing said switch, and win-indicating means operable upon the movement of each of said levers, whereby each actuation of the levers due to the spacing of the contacts on said code wheel and said bearing members may or may not cause a circuit to the win-indicating means to be energized by the closing of certain of said interengaged circuits.

7. The amusement apparatus as in claim 6 wherein a slide is provided that in normal position will prevent closing of the circuit, means actuated by the movement of the slide after the placing of a coin in said slide to free the levers for operation, means adapted to close the circuits by the levers when the slide is moved to another position, a cam normally locking the latch release means, means connected to the slide for moving the coin out of normal position when the slide is in the last-named position, yielding means adapted to retain the slide in the last-named position and lever responsive means for returning the slide to normal position.

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