United States Patent [19]

Ohki

[11] **3,747,936**

[45] **July 24, 1973**

[54] **MANUALLY ACTUATED AND ELECTRICALLY OPERATED ROTATABLE DRUM CHANCE DEVICE AND SAVING BANK**

[75] Inventor: **Haruo Ohki,** Tokyo, Japan

[73] Assignee: **Yoshie Ito,** Tokyo, Japan; a part interest

[22] Filed: **Oct. 6, 1971**

[21] Appl. No.: **186,951**

[30] **Foreign Application Priority Data**

Mar. 16, 1971 Japan 46/14055

[52] **U.S. Cl.** ..... **273/143 R,** 46/3

[51] **Int. Cl.** **A63f 5/04**

[58] **Field of Search** ..... 46/2, 3, 4, 5; 273/143 R, 143 A, 143 B, 143 C, 143 D, 143 E

[56] **References Cited**

UNITED STATES PATENTS

1,854,479	4/1932	Mills	273/143 R
2,093,813	9/1937	Macourek	273/143 R
3,565,441	2/1971	Matsumoto	273/143 R

FOREIGN PATENTS OR APPLICATIONS

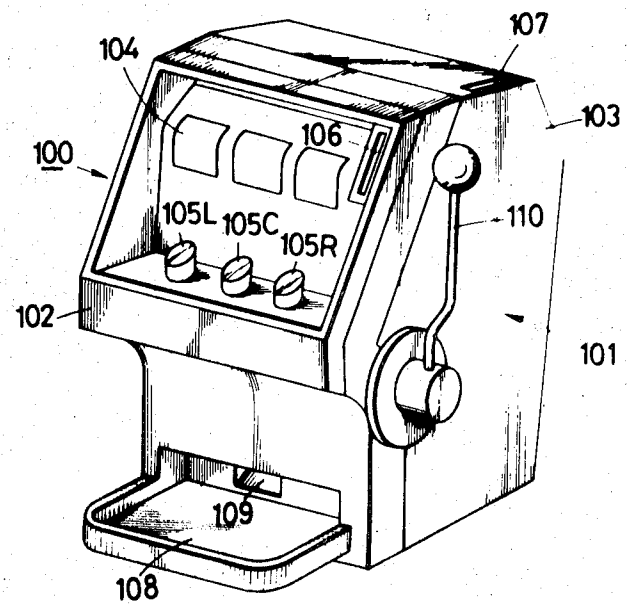
7,906	6/1932	Australia	273/143 R

Primary Examiner—Anton O. Oechsle
Assistant Examiner—Arnold W. Kramer
Attorney—Linton & Linton

[57] **ABSTRACT**

A toy amusement machine and saving bank operable by disposing a disc-like object therein, and pulling an operating lever so that a plurality of indicia carrying drums are rotated by an electric motor and then depressing push-buttons causing an associated brake to stop corresponding ones of said drums and then again depressing the push-button for drums showing winning indicia to rock frame members having extensions enterable into notches in the drums to operate mechanism which will discharge a predetermined number of disc-like objects from the machine.

4 Claims, 6 Drawing Figures



PATENTED JUL 24 1973

3,747,936

SHEET 1 OF 2

FIG. 1

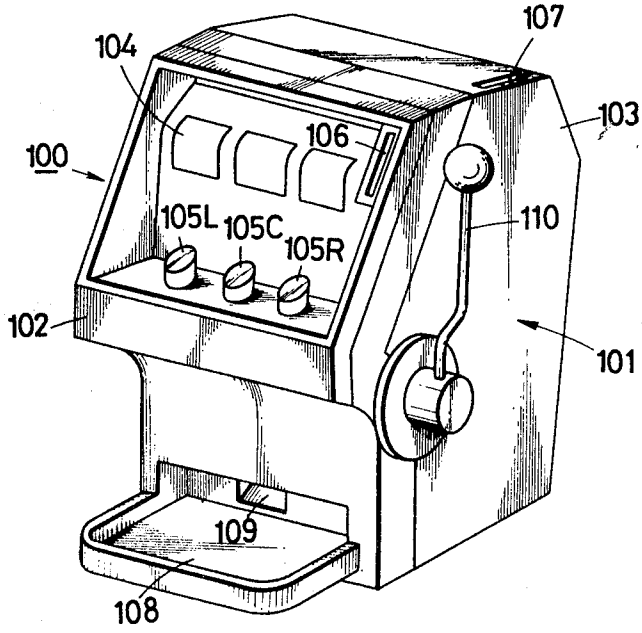


FIG. 2

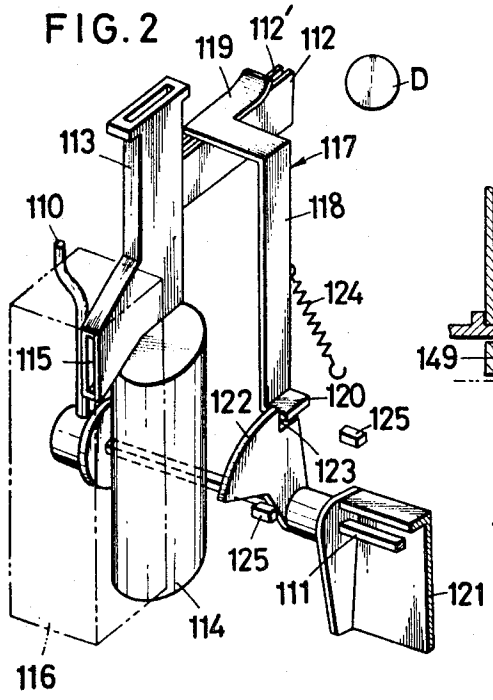
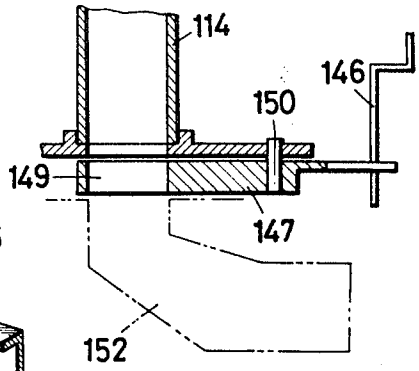


FIG. 3



INVENTOR.
HARUO OHKI

BY
Sinton and Sinton
ATTORNEYS

FIG. 4

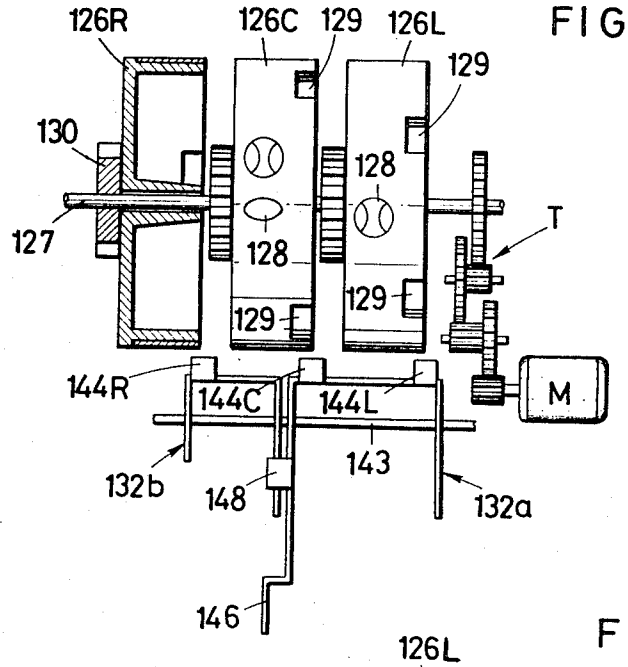


FIG. 5

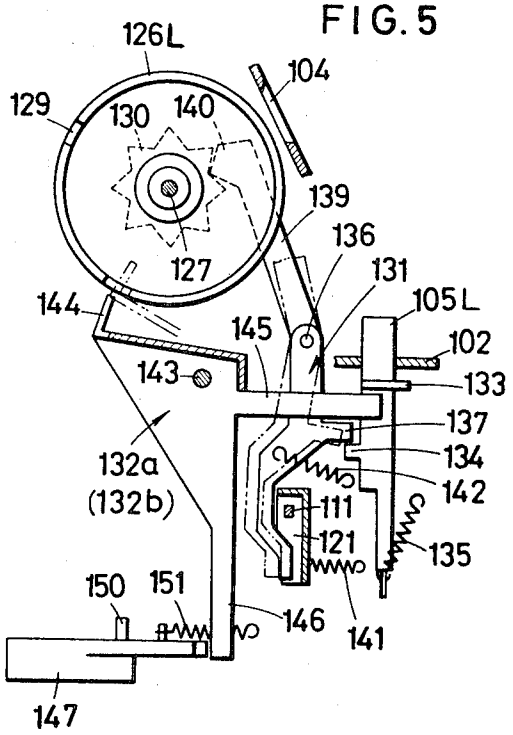
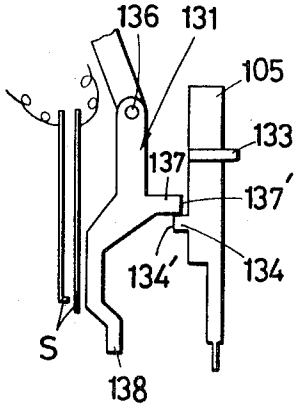


FIG. 6



INVENTOR.
HARUO OHKI
BY
Sinton and Sinton
ATTORNEYS

MANUALLY ACTUATED AND ELECTRICALLY OPERATED ROTATABLE DRUM CHANCE DEVICE AND SAVING BANK

This invention relates to improvements in and relating to a toy amusement machine which operates in response to the deposition therein of a suitable disc-like object and also serves a role of a toy saving bank.

It is therefore a general object of the invention to provide a toy amusement machine which provides an incentive for the user to save money, while he enjoys playing the machine.

It is a more specific object of the invention to provide an improved toy amusement machine which is simple in design and construction including a mechanism to prohibit unfair manipulation of the machine.

Other objects and features of advantage of the invention will be apparent from the following description taken in conjunction with the accompanying drawings in which:

FIG. is a perspective view of a toy saving bank or machine which embodies the invention;

FIG. 2 is a perspective view of a set of interior components of the machine including a disc delivery chute, a drum actuating mechanism and a disc collecting compartment;

FIG. 3 is a sectional view of a disc discharge mechanism;

FIG. 4 is a back elevational view, partly sectional, of a series of display drums and associated components;

FIG. 5 is a side view of a push button mechanism and other operating components employed in accordance with the invention; and

FIG. 6 is a view schematically illustrating a motor circuit switch as associated with a crank mechanism and a pushbutton.

Referring now to the drawings and FIG. 1 in particular, there is shown an amusement machine or toy bank **100** which embodies the invention. The machine **100** includes a housing **101** formed by a front panel plate **102** and a back cover plate **103.** The front panel plate **102** is provided with a plurality of display windows **104** to expose to view the various combinations of symbols hereafter described. The plate **102** is also provided with a plurality of pushbuttons **105C, 105L** and **105R** adapted to be depressed so as to successively stop the display drums hereinafter described. The number of these windows corresponds to the number of display drums hereinafter described. The number of these push-buttons also corrresponds to the number of said windows, viz. the number of said drums.

There is provided a disc deposition slit **106** formed in the upper end portion of the front plate **102** for the deposition of discs into the machine, which slit extends into a disc delivery chute hereinafter described. There is provided a similar slit **107** in the upper section of the back cover plate **103** for depositing the discs into a disc collecting compartment hereinafter described, irrelative to the operation of the machine. Forwardly projecting from the lower end of the front panel plate **102** is a disc pick-up plate **108** for receiving from an opening **109** a predetermined amount of discs each time the winning symbols appear in the windows **104.**

Designated at **110** is an operating handle for actuating the drums and attached to one end of a shaft **111** (FIG. 2) extending between and pivotally connected to the sides of a machine frame (not shown).

Referring to FIG. **2,** there is shown a disc delivery chute **112** with one end extending to the disc deposition slit **106** and with the other end tying into a vertical chute **113.** Thiis latter chute has its upper end opening into the slit **107** and its lower end opening into a cylindrical disc collecting compartment **114.** The vertical chute **113** is further provided with a side opening **115** through which to transfer discs D which have been accumulated in excess of the capacity of the compartment **114,** into a disc saving chamber **116** designated by chain-dotted line in FIG. **2.**

There is shown a retaining means **117** which comprises a vertical leg **118,** a tab **119** extending horizontally from the upper end of the leg **118** and normally closing the upper open end **112'** of the chute **112** and a pawl **120** projecting from the lower end of the leg **118** for engagement with a cam member later described. At the other end of the shaft **111** opposite to the handle **110,** there is attached a pusher plate **121** for abutting engagement with a crank arm later described. Also attached on the shaft **111** is a cam member **122** which is recessed to define a reduced portion **123** engageable with the pawl **120** of the retaining means **117.** The retaining means **117** is loaded by means of a spring **124** in a direction to urge the tab **119** to abut against and close over the open end **112'** of the chut **112** and to engage the pawl **120** with the reduced portion **123** thereby retaining the cam **122** and thus handle **110** in locked position.

Two opposite stops **125** are provided in the path of movement of the cam **122** to limit the movement of the same.

Referring now to FIG. **4,** there are shown a series of display drums **126C, 126L** and **126R** mounted for frictional rotation on a common shaft **127** which is journalled for rotation between the sides of the housing **101.** These drums are provided on their respective surfaces at circumferentially spaced positions with various combinations of symbols **128** such as for example pictures, letters, numerals and the like, certain of which symbols are pre-selected as winning symbols in a manner similar to "jack pots." The symbols **128** are successively viewable through the windows **104** as the drums rotate. Each drum is provided peripherally with notches **129** at predetermined positions for engagement with a hook later described. Each of said drums has also coupled thereto an indexing wheel **130** engageable with a braking element later described.

As shown in FIG. **1,** there are provided as many push-buttons **105C, 105L** and **105R** as there are drums for stopping the drums in a manner hereinafter described. Each push-button is opertively associated, as better shown in FIG. **5** for push-button **105L,** as an example, with a crank member **131.** Each of said push-buttons are provided with a flange **133** and a ledge **134,** and it is loaded by means of a spring **135** in an outward direction to bring the flange **133** into abutting engagement with the wall of the front panel plate **102.** The crank member **131** is supported on a pin **136** for pivotal movement therewith and has a lateral projection **137** engageable with the ledge **134** of the push-button **105L** and a dog-leg bottom portion **138** disposed for abutting engagement with the pusher plate **121.** The pin **136** also carries thereon a braking element **139** which has a hook **140** engageable with the indexing wheel **130.**

When the machine is held inoperative, all the push-buttons **126R, 126C** and **126L** are each depressed to a

position wherein the ledge **134** underlines the lateral projection **137**, as shown in FIG. **6**, thereby to lock the push-button in position against the loading of the spring **135**. Now, as a disc D is placed in the slit **106**, the disc lifts the tab **119** away from the chute **112** to a position wherein the pawl **120** is disengaged from the reduced portion **123** of the cam **122** so that the handle **110** is freed for rotation by hand. With the retaining means **117** thus held in lifted position by the disc, the handle **110** is rotated clock-wise as viewed in FIG. **5** and so does the cam **122** further lifting the retaining means **117** on the rounded periphery of said disc to a position wherein the disc D is released from the tab **119** and delivered by gravity down the chute **112** and into the disc collecting compartment **114**. With rotation of the handle, the pusher plate **121** also rotates clockwise against the loading of a spring **141** to a position wherein the plate **121** abuts against the dog-leg portion **138** of the crank **131** and causes this crank to rotate against the loading of a spring **142** to a position indicated by chain-dot line in FIG. **5**. Thus, clockwise rotation of the crank **131** disengages the braking element **139** from the indexing wheel **130** and at the same time, closes a motor circuit switch S schematically shown in FIG. **6**, which switch is operatively associated preferably only with one of the three cranks **131**, viz. the one associated with the push button **105R** assigned to drum **126R**. The rotation of the crank **131** also disengages the projection **137** from the ledge **134**, whereupon the push-button **105** is brought back to normal position under the influence of the spring **135**. In this position, the forward end **137'** of the projection **137** registers with and is brought into abutment to the forward end **134'** of the ledge **134** by the return action of the spring **142**. This end-to-end abutting engagement of the projection **137** and ledge **134** retains the crank **131** in a set position indicated by chain-dot line in FIG. **5** and also the switch S in closed state regardless of the return of the handle **110** to its upright position which is effected by the return action of the spring **141** connected to the pusher plate **121**. Thus, with the switch S closed, the motor M is actuated to drive the drum shaft **127** through a transmission unit T of a conventional design thereby rotating the drums **126** all at the same time.

There are shown, in FIGS. **4** and **5**, a first operating frame member **132*a*** and a second operating frame member **132*b***, both rotatably mounted on a shaft **143** extending between the sides of machine frame (not shown). The first frame member **132*a*** is provided with two hooks **144L** and **144C** respectively positioned in alignment with one peripheral edges of the drums **126L** and **126C** and engageable with the notches **129** therein. The first frame member **132*a*** is also provided with an arm **145** extending subjacent the flange **133** of the center push-button **105C** and with a leg **146** held in abutting relation to a disc discharge lever **147**. The second operating frame member **132*b*** is provided with a hook **144R** for engagement with the notches **129** in the drum **126R**, and also an arm similar to the arm **145** but extending subjacent the flange **133** of the right-hand push-button **105R**. The second frame member **132*b*** is separably connected to the first frame member **132*a*** by means of a flap **148** projecting from the first member **132*a*** into the path of movement of the second member **132*b***.

As shown in FIG. **3**, disc discharge lever **147** is provided with a circular recess **149** normally communicating with an open bottom of the cylindrical disc collecting compartment **114** and designed to receive a predetermined number of discs. The lever **147** is rotatable about a pin **150** against the loading of a spring **151** for discharging the discs through a discharge channel **152** and opening **109** out to the pick-up plate **108**.

Now, in the overall operation of the machine, assume that it is in the set position as already described and all drums **126L**, **126C** and **126R** are in rotation, with the respective braking elments **139** disengaged from the indexing wheels **130** and with all push-buttons **105L**, **105C** and **105R** held in retracted position. The push-button **105L** is first depressed whereupon the abutting engagement of this push-button with its associated crank **131** as at their respective forward ends **134'** and **137'** is released. The crank **131** thus being released from the push-button **105L** rotates counter-clockwise as viewed in FIG. **5**, under the influence of the spring **142** so as to engage the hook **140** with the indexing wheel **130** and stop the drum **126L**, exposing the symbols **128** to view through the window **104**. The center push-button **105C** is then depressed in a similar manner to stop the drum **126C** associated therewith. This is followed by depressing the push-button **105R** to stop the last drum **126R**, whereupon the switch S is opened and the motor M stopped. In this instance, if the symbols **128** on drums **126L** and **126C** that have appeared in the respective windows are pre-selected "winning symbols," the center push-button **105C** is again depressed against the arm **145** thereby to rotate the first operating frame member **132*a*** clockwise until the hooks **144L** and **144C** respectively engage the notches **129** of drums **126L** and **126C**, respectively, whereupon the leg **146** of the frame member **132*a*** is pressed against the disc discharge lever **147**, rotating the same to discharge a predetermined number of discs D to the pick-up plate **108**. If the symbols **128** on drum **126R** are also "winning symbols," the push-button **105R** is depressed in a similar manner so as to discharge additional discs.

Having thus described the invention, it will be understood that various changes and modifications may be made in the construction and form herein advanced as obvious to those skilled in the art, without departing from the scope of the appended claims.

I claim:

1. A chance amusement machine comprising a housing having a plurality of viewing windows; a corresponding plurality of indicia bearing drums frictionally rotatable on a drum shaft rotatably supported in said housing, each drum having an indexing wheel and being peripherally aligned with a respective one of said windows with a periphery of each drum having a plurality of spaced notches therein; a plurality of rockable braking means each noramlly engaging a respective indexing wheel; pusher plate means rigidly mounted on a lever controlled shaft rotatably mounted in said housing for rocking said braking means out of engagement with said indexing wheels when manually actuated; a disc operated mechanism normally connected to and restraining said lever controlled shaft from actuation until released therefrom by insertion of a disc; a corresponding plurality of biased push-button means slideably mounted through said housing, each said push-button means being biased into a position holding a respective braking means out of engagement with its index wheel when said lever controlled shaft is actuated and released; a switch controlled electric motor for

turning said drum shaft, said switch being closed by one of said braking means being held out of engagement with its index wheel by its respective push-button means and said switch being opened to stop said motor when said one of said push-button means is manually actuated so as to release its respective braking means for indexing its drum; a disc discharge mechanism; a plurality of operating frame members pivotally mounted in said housing, said frame members having extensions thereon for possibly entering said notches in said drums when rocked thereagainst through further manual actuation of said push-button means after indexing said drums, one of said frame members being rocked by at least one of said push-button means to operate said disc discharge mechanism if the extensions associated therewith enter the associated notches, and at least one other of said frame members being capable of being pivoted by another of said push-button means dependent upon the associated extensions and notches, with the pivoting of said at least one other frame member further pivoting said one of said frame members to thereby actuate said disc discharge mechanism.

3. An amusement machine as claimed in claim **1** wherein said disc operated mechanism consists of a notched cam fixedly mounted on said lever controlled shaft, an open top chute for partially receiving a disc at a time, a leg having a lateral end normally on said chute open top until raised by a disc in said chute and an opposite lateral end normally in said cam notch retaining rotation of said lever controlled shaft.

2. An amusement machine as claimed in claim **1** wherein said braking means each consists of a pivotally mounted crank having a hook on one end positioned by engaging and preventing rotation of its respective indexing wheel, a projection on said crank, a corresponding one of said push-button means having a ledge positioned for end abuttment at times with said crank projection whereby said hook is held from said toothed wheel until said push-button means is depressed moving its ledge below said crank projection and resilient means tending to hold said push-button means with its ledge in end abuttment with said crank projection.

4. An amusement machine as claimed in claim **3** wherein said disc discharge mechanism includes a collecting compartment connected to said chute for receiving discs therefrom and having an opening in the bottom thereof, a lever pivotally connected to said compartment and having an opening capable of being in alignment with said compartment opening, resilient means tending to retain said lever with its opening out of alignment with said compartment opening and said lever being positioned for being engaged by said one of said frame members and pivoted thereby positioning said openings in alignement to discharge discs from said compartment.

* * * * *