

[54] **MOTOR DRIVEN ROTATABLE DRUM  
CHANCE DEVICE**

[72] Inventor: **Haruo Ohki**, 2-10, 2 chome, Shiratari,  
Katsushika-ku, Tokyo, Japan

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[58] Field of Search.....273/138 A, 143 R, 143 A, 143 B,  
273/143 C, 143 D, 143 E, 1 E; 46/2, 3, 4, 5

[56] **References Cited**

**UNITED STATES PATENTS**

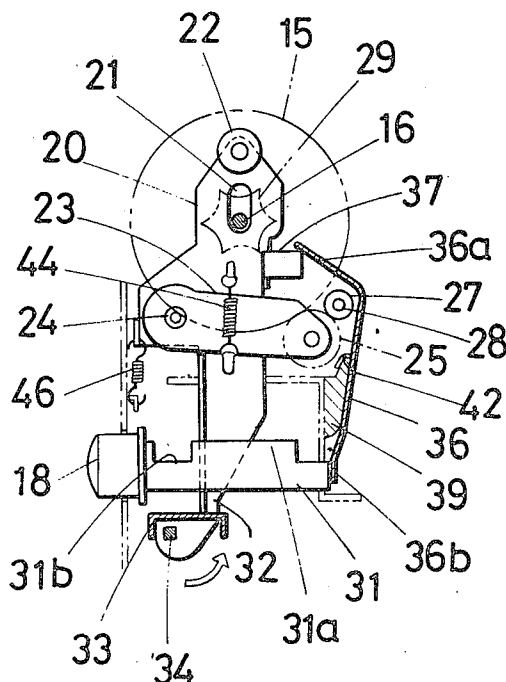
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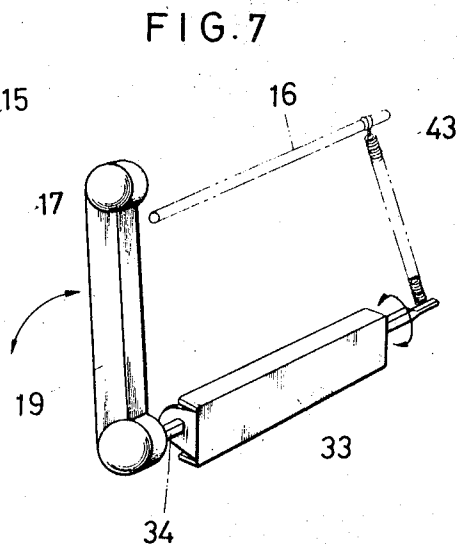
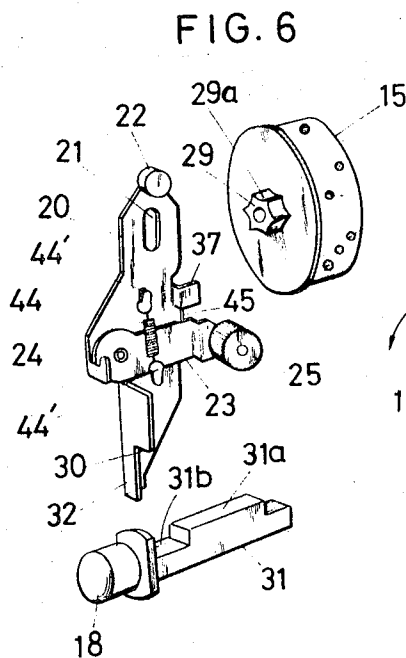
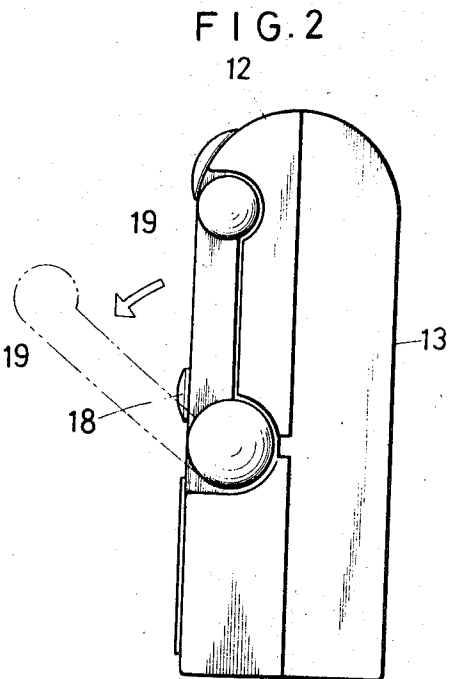
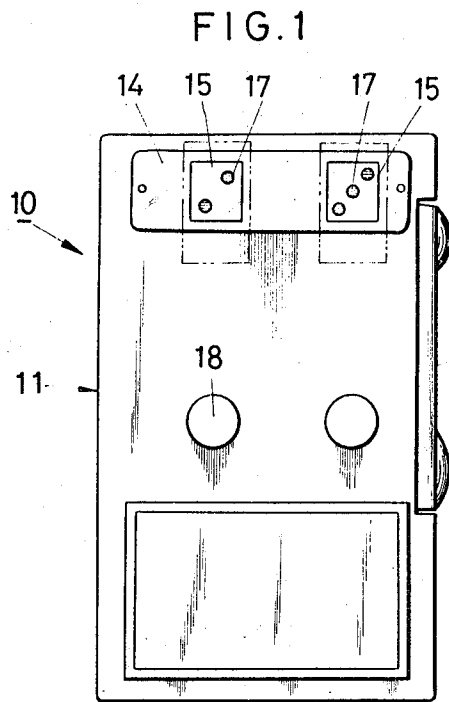
*Primary Examiner*—Anton O. Oechsle  
*Assistant Examiner*—Arnold W. Kramer  
*Attorney*—Linton & Linton

[57] **ABSTRACT**

An amusement device is disclosed which essentially comprises a plurality of display drums each provided on its peripheral surface at circumferentially spaced positions with combinations of symbols, a drum actuating means connected with an electric motor for driving said drums and a drum braking means associated with a push-button arrangement for stopping rotation of the drums successively so as to pair or match the symbols on one drum with those on another, and a handle lever for releasing the depressed push-buttons and resuming rotation of the drums.

**7 Claims, 7 Drawing Figures**





INVENTOR  
HARUO OHKI

BY *Linton and Linton*  
ATTORNEYS

FIG. 3

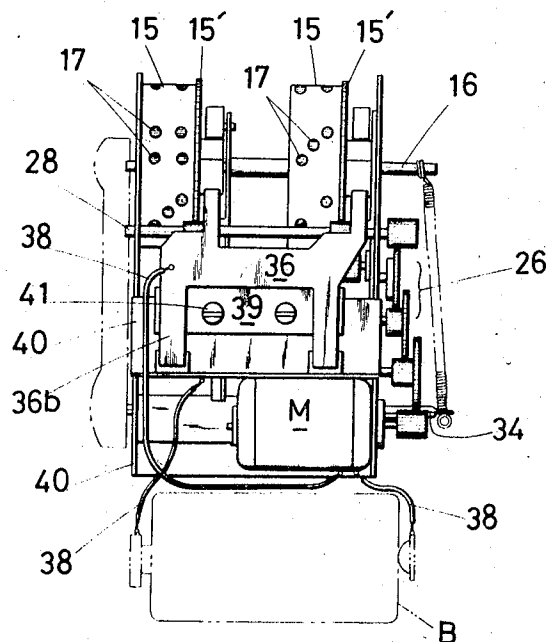


FIG. 4

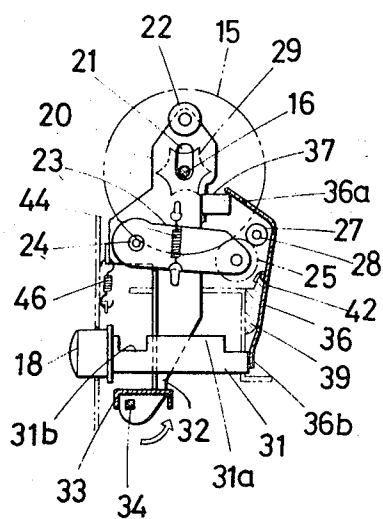
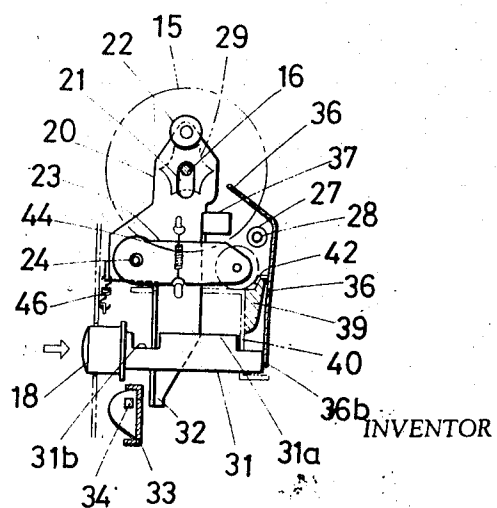


FIG. 5



INVENTOR

HARUO OHKI

BY

*Linton and Linton*  
ATTORNEYS

**MOTOR DRIVEN ROTABLE DRUM CHANCE DEVICE**

This invention relates to an amusement device and has particular reference to such device which is designed for playing by matching or pairing suitable combinations of symbols provided thereon.

The present invention has for an object to provide an amusement or toy device of the class described which is very simple in construction and easy in operation, and which may be further built compact to adapt itself for use by children. This object together with other advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a front elevational view of an amusement device embodying the invention;

FIG. 2 is a side elevational view of the same;

FIG. 3 is an elevational view of the device with the rear cover removed to expose its interior components;

FIG. 4 is a side view of a drum actuating mechanism shown as in its operative position;

FIG. 5 is a view similar to FIG. 4, but with the drum actuating mechanism in its inoperative position;

FIG. 6 is an exploded, perspective view of the essential operative parts forming the drum actuating mechanism; and

FIG. 7 is a perspective view of a handle lever and its associated parts.

Briefly stated, the device according to the invention comprises a generally rectangular casing, a plurality of drums each rotatably mounted on a common shaft secured to the side walls of said casing and having on its periphery at circumferentially spaced positions various combinations of symbols such as for example pictures, letters, numerals and the like; a drum actuating mechanism including a drive roller connected via reduction gears to a motor and transmission means normally engaged with said drive roller and each drum to rotate the latter; a braking means including a cam wheel having a plurality of circumferential grooves and secured to one side of the drum and a stop means disposed for engagement with said cam wheel to discontinue rotation of the drum; a movable means carrying rotatably thereon said transmission means and said braking means and having provided therewith an electrical contact strip for engagement with a mating contact leading to a motor energization circuit; a block member; a plurality of push-buttons projecting externally of the front wall of said casing and connected with said block member for operative association with said movable means, each of said push-buttons, when depressed, causing said transmission means to disengage from said drive roller and drum surface, said braking means to engage with said cam wheel, and said contact strip to disengage from said mating contact thereby switching the motor circuit into an open position; a shaft journaled for rotation between the side walls of said casing subjacent said push-buttons; a rectangular bar fixedly mounted on said shaft; a handle lever secured to one end of said shaft and extending externally of one side wall of the casing; a resilient means normally urging said handle lever into normal position; and a push-button release means fixedly mounted on said shaft and engageable with said movable means to release the push-buttons from said movable means.

Referring now to the drawings and to FIGS. 1 and 2 in particular, there is shown an amusement device 10 embodying the present invention and comprising a casing 11 which may be generally rectangular for accommodating therein the various components and parts of the device and which is formed by a front cover 12 and a rear cover 13. The front cover 12 is provided with a display window 14 to expose to a view a portion of the peripheral surface of each of a plurality of drums 15 mounted for rotation on a common shaft 16 between the side walls of the casing 11. Each drum 15 shown by imaginary line in FIG. 1 is provided on its periphery at circumferentially spaced positions with suitable combinations of symbols 17 such as a dice as shown which are successively viewable through the window 14 as the drums rotate. The front cover 11 is further provided with as many push-buttons 18 as are the drums 15 for stopping the rotation of the latter in a manner

hereinafter described. Designated at 19 is a rotatable handle lever operatively associated with a release means later described for releasing the push-buttons to resume rotation of the drums.

Referring to the rest of the figures, each drum 15 is shown as associated with its actuating and braking means including a vertically movable plate member 20 having an elongated slot 21 in which the shaft 16 is inserted and along which the member 20 is guided for vertical movement. The member 20 carries a braking roller 22 rotatably at the upper end thereof adjacent to the slot 21 and has an arm 23 pivotal as at 24. The arm 23 has on its free end a transmission roller or pinion 25 for delivering rotational power from a drive motor M to associated drum 15 through a group of reduction gears collectively designated by numeral 26. The pinion 25 preferably in the form of a rubber roller is positioned to be engageable with a drive roller 27 mounted on a shaft 28 driven by the gears 26 connecting to the motor M. The transmission pinion 25 is also engageable in meshing relation with a peripherally toothed surface 15' of the drum 15, or may alternatively be arranged to engage with a non-toothed peripheral area of the drum 15. The engagement of the pinion 25 with the drive roller 27 and simultaneously with the drum surface is determined by the position of the movable plate member 20 which is controlled by a push-button release member later described. The braking means for discontinuing rotation of the drum 15 essentially comprises a braking roller 22 rotatably mounted on the upper end of the movable plate member 20 and positioned to be engageable with a cam wheel 29 secured to one side of the drum 15 when the member 20 is held in raised position as shown in FIG. 5. More specifically, the cam wheel 29 is provided with circumferential recesses or grooves 29a for engagement with the braking roller 22. The number of these grooves 29a correspond to the number of symbols 17 on each drum. The grooves 29a are positioned to register with the symbols on the drum, so that as the braking roller 22 engages with any particular groove, the drum stops instantaneously with a predetermined one of the symbols 17 stationarily viewable through the window 14.

As better seen in FIG. 6, the plate member 20 is provided at its lower end with a projecting part 30 disposed in abutting relation to a block member 31 connected with the push-button 18 and another projecting part 32 subjacent the part 30 and disposed in abutting relation to a rectangular bar 33 (FIG. 7) fixedly mounted on a shaft 34 on one end of which shaft the handle 19 is supported. The block member 31 has a land 31a for bearing thereon the part 30 of the plate member 20 when the drum 15 is held in rotation with the push-button 18 is normally released position and with the handle 19 in upright position. The block member 31 has a recess 31b adjacent the push-button for bearing thereon the part 30 when the push-button is depressed against tension of a resilient plate 36. This plate has one end 36a inwardly bent and disposed for engagement with a projection 37 extending from the movable plate member 20 and the other end 36b connected to the rear end of the block member 31 and normally urging the latter towards the push-button 18. Lead wires 38 connecting between the motor M and a power source such as a storage battery B are also connected to the resilient plate 36, forming an activation circuit for the drum 15. It will be understood, therefore, that the plate 36 and projection 37 constitute an automatic switch to open and close the motor energization circuit. It will be further understood that there are provided as many of these switches as there are drums 15 and these switches are connected in parallel between the motor M and power source B, so that the drums may be stopped at different times and independently one from the other.

Designated at 39 is an electrically insulating member secured to a frame member 40 by means of clamping screws 41. The resilient plate 36 has a hook 42 to secure this plate to the insulating member 39 as seen in FIGS. 4 and 5.

Designated at 43 and shown in FIG. 7 is a coil spring spanning between the drum shaft 16 and handle supporting

shaft 34 for returning the handle 19 to normal upright position.

Designated at 44 is a spring secured as at 44' to the movable plate member 20 for positioning the arm 23 normally against an abutment 45 subjacent the projection 37. Another spring 46 is provided for normally urging the movable plate member 20 downwardly as seen in FIGS. 4 and 5.

With this construction, the amusement device operates in the following manner. The handle lever 19 is first pulled in the direction of an arrow as shown in FIG. 2 thereby lifting the movable plate member 20 to return all push-buttons 18 to normal non-depressed position and at the same time allowing the resilient plate 36 to contact the projection 37 of the member 20, whereupon the motor M is started to drive all drums 15 simultaneously through the transmission means 25. Upon releasing of the handle 19, it returns to normal upright position by the action of the spring 43. However, the movable plate member 20 is still held in raised position with its part 30 ridden over the land 31a of the block 31, thus maintaining the motor circuit in an energizing state. In this position of the device, the braking roller 22 is disengaged from the cam wheel 29 and the transmission pinion 25 is brought into engagement with both drive roller 27 and drum 15 to actuate the latter as seen in FIG. 4. While the drums 15 are thus held in rotation, the push-buttons 18 may be successively depressed whereupon the block member associated with the depressed button 31 retracts against the tension of the resilient plate 36 until the movable plate member 20 descends with its lower end part 32 fallen into and stopped at the recess 31b of the block 31 as shown in FIG. 5. In this position of the device, the resilient plate 36 disengages from the projection 37 and the braking roller 22 engages the particular groove 29a of the cam wheel 29, while the transmission pinion 25 is separated from the drive roller 27 and from the drum surface so as to discontinue rotation of the drum 15 corresponding to the push-button which has been depressed. The drum 15 stops in this manner with a certain of symbols 17 exposed to a view through the window 14.

Having thus described the invention, it is to be understood that the invention is not to be limited to the specific form and construction described herein above and shown in the accompanying drawings, but various changes and modifications as obvious to one skilled in the art may be made therein without departing from the scope of the appended claims.

What is claimed is:

1. An amusement device comprising, in combination, a generally rectangular casing, a plurality of drums each rotatably mounted on a common shaft secured to the side walls of said casing and having on its periphery at circumferentially spaced positions various combinations of symbols such as for example pictures, letters, numerals and the like; a drum actuating mechanism including a drive roller connected via reduction gears to a motor and a plurality of transmission

means, one for each drum, normally engaged with said drive roller and a drum to rotate the latter; a braking means for each drum each braking means including a cam wheel having a plurality of circumferential grooves and secured to one side of the drum and a stop means disposed for engagement with said cam wheel to discontinue rotation of the drum; a like plurality of movable means each carrying rotatably thereon one of said transmission means and one of said braking means and each having provided therewith an electrical contact strip for engagement with a mating contact leading to a like plurality of motor energization circuit; a block members; a like plurality of push-buttons projecting externally of the front wall of said casing each connected with a respective block member for operative association with a respective movable means, each of said push-buttons, when depressed, causing its associated transmission means to disengage from said drive roller and respective drum surface, the associated braking means to engage with its cam wheel, and said respective contact strip to disengage from said mating contact thereby switching the corresponding portion of the motor energization circuit into an open position; a shaft journaled for rotation between the side walls of said casing subjacent said push-buttons; a rectangular bar fixedly mounted on said shaft; a handle lever secured to one end of said shaft and extending externally of one side wall of the casing; a resilient means normally urging said handle lever into normal position; and said rectangular bar comprising a push-button release means engageable with said plurality of movable means to release the push-buttons from their respective movable means.

2. An amusement device as claimed in claim 1 wherein each of said drums is provided with a toothed periphery for meshing engagement with its respective transmission means including a pinion rotatably mounted on said respective movable means.

3. An amusement device as claimed in claim 1 wherein each said cam wheel is provided around its periphery with a plurality of recesses for engagement with said associated braking means including a roller rotatably mounted on each said movable means.

4. An amusement device as claimed in claim 3 wherein said recesses correspond in number to said symbols on each drum and register in position therewith.

5. An amusement device as claimed in claim 1 wherein said mating contact extends from a resilient plate member and cooperates with each said contact strip to form an automatic switch means for opening and closing the motor energization circuit.

6. An amusement device as claimed in claim 5 wherein said resilient plate member is disposed to normally urge each of said push-buttons into non-depressed position.

7. An amusement device as claimed in claim 1 wherein each said movable means is disposed in supported relation to its respective block member and vertically movable by said rectangular bar upon manual operation of said handle lever.

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