

(19)



(11)

EP 1 530 175 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
29.08.2007 Bulletin 2007/35

(51) Int Cl.:
G07F 17/32 ^(2006.01)

(21) Application number: **04026702.3**

(22) Date of filing: **10.11.2004**

(54) **Gaming machine**

Spielgerät

Machine de jeu

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR**

(30) Priority: **10.11.2003 JP 2003380374**

(43) Date of publication of application:
11.05.2005 Bulletin 2005/19

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a gaming machine that is installed in a so-called game arcade or the like.

Description of the Prior Art

[0002] Gaming machines which are equipped with staircase form medal accumulating parts comprising a plurality of step parts, and which are constructed so that medals are paid out from a step part (among the above-mentioned plurality of step parts) in accordance with the results of a drawing that is performed when it is acknowledged that a medal has entered a medal receiving opening, have been known in the past (for example, see Japanese Unexamined Patent Publication No. 2001-310077). In such a gaming machine, the paying out of medals from the medal accumulating parts can be diversified so that medals are paid out from the step part at the lower end and given to the player, so that medals that are paid out from the step parts on the upper side are accumulated in the step parts on the lower side, or so that medals are paid out from all of the step parts and large quantities of medals are given to the player, in accordance with the drawing results.

[0003] However, in a gaming machine such as that described above, since a medal receiving opening is fixed in a prescribed position within the gaming space, there is little movement in that medals are simply inserted in the same direction towards the medal receiving opening, thus creating monotonous game contents, and hence the player may experience boredom.

[0004] Furthermore, since the game contents are such that medals are simply inserted into a fixed medal receiving opening, then whichever player plays the game, the frequency of inserting medals into the medal receiving opening will be generally the same. Therefore, the game results depend on the result of a drawing for determining whether or not a jackpot has been activated, and it is difficult to reflect the skill of the player in the game results.

[0005] A gaming machine with the features of the preamble part of claim 1 is shown in US 6 206 370.

SUMMARY OF THE INVENTION

[0006] The present invention is devised with the foregoing problems in view, an object of the present invention is to provide a gaming machine which creates a rich sense of movement, and which allows the skill of a player to be reflected in the game results, thereby allowing the player to play the game without experiencing boredom.

[0007] In order to solve the abovementioned problems, the present invention provides a gaming machine as

claimed in claim 1. The gaming machine is constructed as follows.

[0008] Specifically, the gaming machine of the present invention is a gaming machine comprising: a gaming machine having a projection device for projection of medals into a gaming space; the gaming machine having a medal receiving opening for receiving medals that are projected by the projection device; wherein the gaming machine has a medal discharge opening for discharging medals to the outside of the gaming space; wherein the gaming machine has a plurality of medal accumulating parts, and is constructed so that the plurality of medal accumulating parts are sequentially disposed and ranged along the medal discharge opening, wherein the medals that are paid out from the respective medal accumulating parts are sequentially moved and accumulated in the medal accumulating parts that are adjacent on the side of the medal discharge opening, and wherein the medals that are paid out from the medal accumulating part that is located closely to the medal discharge opening are discharged from the medal discharge opening and given to the player;

detecting means for detecting the medals that have entered into the medal receiving opening;

25 drawing means for performing a drawing in order to determine the presence or absence of a jackpot when the medals are detected by the detecting means;

30 pay-out means for paying out medals from the medal accumulating parts in accordance with the drawing results of the drawing means; and

moving means for moving the medal receiving opening.

35 **[0009]** Furthermore, in the gaming machine, the moving means is a moving unit in which the medal receiving opening is disposed in a suspended fashion, the moving unit causing the medal receiving opening to move upwards and downwards.

40 **[0010]** Furthermore, in the gaming machine, the moving unit comprises: a frame body fixed to a ceiling part inside the gaming space; a raising and lowering motor provided inside the frame body; and a rope winding part attached to the shaft of the raising and lowering motor; the other end of the rope that is wound about the rope winding part being attached to a member coupled to the medal receiving opening.

45 **[0011]** Furthermore, in the gaming machine, an openable and closable lid body is provided in the opening section of the medal receiving opening into which the medals enter, in such a manner that an opening and closing operation of the lid body is performed with a prescribed timing.

50 **[0012]** Furthermore, in the gaming machine, the drawing means performs a drawing in order to determine a presence or absence of a jackpot with respect to the paying out of medals from two or more medal accumulating parts of the plurality of medal accumulating parts, when the medals have been detected by the detecting means.

[0013] Furthermore, the gaming machine may comprise a notification means for making a notification of the

drawing results of the drawing means.

[0014] Furthermore, in the gaming machine, the notification means comprises an LED lamp.

[0015] Furthermore, in the gaming machine, the notification means comprises an LED pattern display device.

[0016] Furthermore, in the gaming machine, the respective medal accumulating parts are disposed above the medal accumulating parts that are adjacent on the side of the medal discharge opening, and medals in the respective medal accumulating parts are caused to move by their own weight from these respective medal accumulating parts, and are accumulated in the medal accumulating parts that are adjacent on the side of the medal discharge opening.

[0017] Furthermore, the medals used in the gaming machine in accordance with the present invention may also include other medium, such as a coin or a token, as well.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Fig. 1 is a perspective view which schematically shows a gaming machine constituting an embodiment of the present invention;

Fig. 2 is a perspective view which schematically shows the game field that is disposed inside the game space of the gaming machine shown in Fig. 1; Fig. 3 is a vertical sectional view which schematically shows a moving unit provided in the gaming machine shown in Fig. 1;

Fig. 4 is a positional relationship which schematically shows one of the transporting devices with which the gaming machine shown in Fig. 1 is equipped;

Fig. 5A is a plan view which schematically shows the medal accommodating part with which the gaming machine shown in Fig. 1 is equipped;

Fig. 5B is a sectional view along line A-A in Fig. 5A; Fig. 6 is a sectional view which schematically shows the area in the vicinity of the launching device with which the gaming machine shown in Fig. 1 is equipped;

Fig. 7 is a block diagram which schematically shows the internal construction of the gaming machine shown in Fig. 1;

Fig. 8 is a flow chart which shows the game execution processing routine that is executed in the gaming machine shown in Fig. 1;

Fig. 9 is a diagram which shows one example of a drawing probability table; and

Fig. 10 is a flow chart which shows the medal supply processing routine that is executed in the gaming machine shown in Fig. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] An embodiment relating to the present inven-

tion will be described on the basis of the drawings.

[0020] Fig. 1 is a perspective view schematically showing one example of a gaming machine of this embodiment.

[0021] The gaming machine 10 comprises a housing 12 which has substantially the shape of a hexagonal column. The interior of the game space 13 can be viewed via window parts 14 consisting of a transparent material that constitute parts of the housing 12. Furthermore, the ceiling body 11 that forms a part of the housing 12 also consists of a transparent material, so that the interior of the game space 13 can be viewed from above. Six game fields 15 constituting targets at which medals are launched from a medal launching device 16 (described later) are respectively disposed inside the game space 13 so that the hexagonal shape is divided into six parts from the center. Furthermore, in the figures, only two of the six game fields 15 are shown.

[0022] Five transporting devices 50 which are used for the upward conveying of medals that have dropped into medal dropping openings 37 (not shown in the figures), and rails 45 that are respectively connected to the upper parts of the five transporting devices 50, are disposed in the vicinity of the window parts 14 inside the game space 13. The rails 45 are disposed so that these rails are inclined downward from the upper parts of the transporting devices 50 toward a medal accommodating part 90 disposed in the central part of the game space 13. The medals that are transported upward by the transporting devices 50 slide down the rails 45 and are accommodated in the medal accommodating part 90. Furthermore, the rails 45 consist of a transparent material such as an acrylic resin or the like, and are arranged so that the medals that slide down the rails 45 can be seen from the outside.

[0023] Whenever a specified time (e. g., 5 minutes) has elapsed, the medals accommodated in the medal accommodating part 90 are supplied to one of a number of medal carrying locations 27 (not shown in figure 1) that are respectively provided for the six game fields 15. In this case, a drawing (hereafter referred to as the "supply drawing") that is used to select the medal carrying location 27 that is the object of medal supply among the six medal carrying locations 27 is conducted, and medals are supplied to the medal carrying locations 27 in accordance with the results of this supply drawing.

[0024] Furthermore, the abovementioned transporting devices 50 and medal accommodating part 90 will be described in detail later with reference to the attached figures.

[0025] Launching devices 16 that are used to launch medals are respectively disposed corresponding to the six game fields 15 in the lower part of the housing 12, so that a maximum of six players can simultaneously play the game. These launching devices 16 are installed so that the devices can pivot in the vertical (up-down) direction and left-right direction within a specified range. The players determine the launching direction of the medals by pivoting the launching devices 16 within the specified

range in the vertical and left-right directions, and launch medals by pressing a launch button 122 (not shown in the figures), so that the medals are launched inside the game space 13.

[0026] Furthermore, the permissible pivoting range and the like of the launching devices 16 are set so that the launching devices 16 can project medals only onto the corresponding game fields 15.

[0027] Moreover, a medal removal opening 31 is disposed beneath each launching device 16, and medals that are discharged to the outside of the game space 13 via the medal discharge opening 17 (not shown in figure 1) described later are supplied to the medal removal openings 31, and given to the players.

[0028] Furthermore, medal receiving openings 22 that are used to receive medals that are launched by the launching devices 16 into the game space 13 and projected into the game space 13 are disposed in a suspended fashion in a moving unit 100 for moving the medal receiving openings 22 upwards and downwards. This moving unit 100 functions as moving means which move the medal receiving openings 22. Two medal receiving openings 22 are provided respectively for each game field 15. Moreover, the moving unit 100 is attached to the ceiling body 11. If a medal is inserted into either one of the two medal receiving openings 22 and the medal is detected by the medal sensor 28 (not shown in figure 1) provided in the medal receiving opening 22, then a drawing is performed in order to determine the presence or absence of a jackpot with respect to the paying out of medals from one or more of four medal accumulating parts 20 (20a - 20d), which are described hereafter, and if a jackpot is activated, then medals are paid out from a medal accumulating part 20 determined in accordance with the result of the drawing.

[0029] The moving unit 100 is described in detail hereafter with respect to the drawings.

[0030] Next, the game fields 15 disposed inside the game space 13 will be described.

[0031] Fig. 2 is a perspective view which schematically shows one of the game fields 15 disposed inside the game space 13 of the gaming machine 10 shown in Fig. 1. Furthermore, in the following description, one of the six game fields 15 provided in the gaming machine 10 will be described.

[0032] This game field 15 comprises a medal carrying location 27 and four medal accumulating parts 20 (20a through 20d). The medal accumulating parts 20 (20a through 20d) are constructed from the inclined surface of the medal carrying location 27, opening-and-closing doors 21 (21a through 21d) that will be described later, medal receiving openings 22 (22a through 22d) that will be described later, and side plates (not shown in the figures). The side plates are disposed on both side parts of the inclined surface of the medal carrying location 27 so as to contact the medal receiving openings 22. Each of the medal accumulating parts 20a through 20d can accumulate medals that are projected by the corresponding

launching device 16. Furthermore, the medal accumulating part 20a can accumulate medals that are supplied from the medal accommodating part 90 (see Fig. 1). The four medal accumulating parts 20a through 20d are sequentially disposed and ranged along the inclined surface of the medal carrying location 27 toward the player who is playing the game in front.

[0033] Opening-and-closing doors 21a through 21d consisting of a transparent material such as an acrylic resin or the like are respectively disposed before the respective medal accumulating parts 20a through 20d. The players playing the game in front of the medal accumulating parts 20a through 20d can visually observe the medals that have accumulated in the medal accumulating parts 20a through 20d via these opening-and-closing doors 21a through 21d.

[0034] The opening-and-closing doors 21 (21a through 21d) are respectively connected to a stepping motor 32 (not shown in the figures) via a transmission member or the like (not shown in the figures) that can convert the rotational motion of the stepping motor 32 into a rectilinear reciprocating motion, so that the opening-and-closing doors can be moved upward or downward and placed in an open state or closed state by the operation of the stepping motor 32.

[0035] When the stepping motor 32 operates so that the opening-and-closing doors 21a through 21d are placed in an open state, the medals that are blocked slide and move downward along the inclined surface of the medal carrying location 27 as a result of their own weight.

[0036] LED lamps 23a through 23d that can emit light of a plurality of different colors are respectively disposed on the left and right sides of each of the opening-and-closing doors 21a through 21d. If the entry of a medal into a medal receiving opening 22 is acknowledged, a drawing to determine the presence or absence of a jackpot is carried out, and if it is ascertained that a jackpot has been activated, then the LED lamps 23 on the left and right sides are lit with the same color, thus providing notification that a jackpot has been activated.

[0037] For example, if the entry of a medal into one of the medal receiving openings 22 of the two medal receiving openings 22 provided in a game field 15 is acknowledged, a drawing for determining the presence or absence of a jackpot is carried out, and if a jackpot has been activated with respect to the paying out of medals from a medal accumulating part 20a of the four medal accumulating parts 20 (20a through 20d), then all of the LED lamps 23 (23a - 23d) blink while sequentially changing colors, and then all of the LED lamps 23 are lit with a specified color, after a specified period of time has elapsed. In this case, if the color with which the two LED lamps 23a relating to the medal accumulating part 20a are lit is the same color, then it is reported that a jackpot has been activated, and the opening-and-closing doors 21a are driven by the stepping motor 32 so that the opening-and-closing doors 21a are placed in an open state. Thereupon, the medals that were blocked by the open-

ing-and-closing doors 21a slide downward along the inclined surface of the medal carrying location 27, and are accumulated in the medal accumulating part 21b located beneath the medal accumulating part 20a.

[0038] Furthermore, if the entry of a medal into the medal receiving opening 22 is acknowledged, a drawing for determining the presence or absence of a jackpot is carried out, and if a jackpot is activated with respect to the paying out of medals from the medal accumulating part 20a and the medal accumulating part 20b of the four medal accumulating parts 20, then all of the LED lamps 23 blink while changing color, whereupon they are lit with a specified color. In this case, the two LED lamps 23a relating to the medal accumulating part 20a and the two LED lamps 23b relating to the medal accumulating part 20b are lit respectively with the same color. Thereupon, the opening-and-closing doors 21a and the opening-and-closing doors 21b are placed in an open state.

[0039] The medals that are paid out from the medal accumulating parts 20a through 20c respectively move under their own weight into the medal accumulating parts 20b through 20d that are adjacent on the side of the medal discharge opening 17, and that are positioned lower than the medal accumulating parts 20a through 20c, and are accumulated in these medal accumulating parts 20b through 20d. The medals that are paid out from the medal accumulating part 20d that is located closely to the medal discharge opening 17 slide downward, and are either carried on the field plate 34 (described later), or caused to drop into the medal discharge opening 17 from the field plate 34 and given to the player, or caused to drop into the medal dropping opening 37 (described later) and conveyed by the abovementioned transporting device 50.

[0040] A horizontal medal push-out part 33 is disposed on the front part of the medal carrying location 27, and a field plate 34 is disposed on the central part of the undersurface of the medal push-out part 33. The field plate 34 is connected to a motor 35 (not shown in the figures) via a transmission member (not shown in the figures) or the like that can convert the rotational motion of the motor 35 into a rectilinear reciprocating motion, and the field plate 34 is thus constructed so that this field plate can be caused to perform a reciprocating motion between the front side and inside side by the operation of the motor 35. The field plate 34 has a length which is such that medals can be placed on the front side of the medal push-out member 33 even when the field plate 34 has moved to the furthest inside point. When projected medals and medals that have been paid out from the medal accumulating part 20d are placed on the field plate 34 in a case where the field plate 34 has moved to the front side, these projected medals are pushed out by the medal push-out part 33 when the field plate 34 subsequently moves to the inside side so that other medals carried on the field plate 34 can be pushed out and caused to drop into the medal discharge opening 17.

[0041] Furthermore, medal dropping openings 37 are disposed on the left and right sides of the medal dis-

charge opening 17. Projected medals, medals paid out from the medal accumulating part 20d and the like slide down along the inclined surface of the medal carrying location 27 and drop into the medal dropping openings 37, whereupon these medals are transported by the transporting devices 50 and accommodated in the medal accommodating part 90.

[0042] Furthermore, the gaming machine 10 of this embodiment need not necessarily be a so-called pusher gaming machine comprising a medal push-out part 33 and field plate 34; for example, the machine may also be constructed so that the medals that slide downward along the medal carrying location 27 can drop directly into the medal discharge opening 17 or medal dropping openings 37.

[0043] Next, the moving unit 100 will be described.

[0044] Fig. 3 is a vertical sectional view schematically showing a moving unit 100.

[0045] The moving unit 100 comprises a frame body 101 fixed to the ceiling body 11, a raising and lowering motor 102 provided inside the frame body 101, and a winding part 103 installed on a shaft of the raising and lowering motor 102. One end of a rope 104 is wound about the winding part 103 and the other end of the rope 104 is fixed to a coupling bar 106 coupled to the medal receiving opening 22.

[0046] The moving unit 100 is composed so that raising and lowering of the medal receiving opening 22 is performed in a repeated fashion by switching the raising and lowering motor 102 between forward rotation and reverse rotation, at a prescribed timing.

[0047] The timing at which the rotation of the raising and lowering motor 102 is switched may be constant at all times, or it may be changed in specified conditions. Moreover, the rotational speed of the raising and lowering motor 102 may be constant at all times, or it may be changed in specified conditions.

[0048] The medal receiving opening 22 comprises a medal sensor 28, which is an infrared sensor, provided inside the opening. A medal that has entered the medal receiving opening 22 is detected by the medal sensor 28 and then continues to fall downwards as indicated by the arrow with the double-dotted line in the drawing. The medal sensor 28 functions as detecting means which detect a medal that has entered into the medal receiving opening 22. Furthermore, the medal sensor 28 is not limited to being an infrared sensor, but may also be a magnetic proximity type sensor or a mechanical sensor, or the like.

[0049] Next, one of the transporting devices 50 will be described with reference to the attached figures.

[0050] Fig. 4 is a partially cut-away perspective view which schematically shows this transporting device 50.

[0051] The transporting device 50 is a device in which medals that have dropped into the medal dropping opening 37 (see Fig. 2), been caused to slide down the rails 51 communicating with the medal dropping opening 37, and placed on a stopper 52 on the tip end of the rails 51,

are conveyed upward and fed onto rails 45 that communicate with the medal accommodating part 90 (see Fig. 2). The stopper 52 on the tip ends of the rails 51 has a comb-form shape, and is constructed with the tip end being bent so that medals that slide downward along the rails 51 can be stopped in the vicinity of the stopper 52.

[0052] The transporting device 50 comprises a medal elevator mechanism 70 that can lift medals that have been placed on the stopper 52. The medal elevator mechanism 70 has a plurality of buckets 71 that are used to accommodate the medals carried on the stopper 52, and a bucket driving device 72 containing a motor that is used to circulate the buckets 71 in the vertical direction. A sprocket 73 is attached to the drive shaft 72a of the motor inside the bucket driving device 72, and a chain 75 to which the plurality of buckets 71 are attached is mounted on this sprocket 73 and another sprocket 73 that is positioned above this sprocket 73. The upper sprocket 73 is attached to supporting plates 64a and 64b so that this sprocket 73 is free to rotate.

[0053] A medal supporting plate 71a that is used to support medals is disposed on each bucket 71, and the respective medal supporting plates 71a are inclined downward toward the side of the supporting plate 64a from the side of the supporting plate 64b. Furthermore, the end part on the upper side of each medal supporting plate 71a has a comb-form shape, and when the medal supporting plate 71a is raised from the lower end, the comb part of the medal supporting plate 71a and the comb part of the stopper 52 cross so as to face each other, so that the medals carried on the stopper 52 are scooped up when the medal supporting plate 71a passes the upper side of the stopper 52.

[0054] Furthermore, a medal stopper 76 that is used to prevent the medals from dropping downward from the medal supporting plate 71a of each bucket 71 is disposed on the supporting plate 64a. The medal stopper 76 extends in the vertical direction, and when the medal supporting plate 71a carrying the medals reaches the upper end of the medal stopper 76, the medals carried on the medal supporting plate 71a slide downward, and move onto the rails 45.

[0055] Furthermore, a medal hopper that is used to perform the paying out of medals may be disposed inside the housing 12, and the system may be devised so that medals paid out from this medal hopper are supplied to the stopper 52 besides the medals that are supplied to the stopper 52 from the medal dropping openings 37. By doing this, it is possible to cause a maximum quantity of medals to be accommodated on each medal supporting plate 71a, so that the player can be caused to experience a strong sense of anticipation regarding the supply of medals from the medal accommodating part 90.

[0056] Furthermore, the system may also be devised so that medals that have dropped from the medal dropping openings 37 are not supplied directly to the medal stopper 52, but are instead temporarily accumulated in the medal hopper, so that medals paid out from the medal

hopper are supplied to the stopper 52.

[0057] As is shown in Fig. 4, each transporting device 50 is constructed so that the transported medals can be visually observed from the outside; furthermore, as is described above, the rails 45 that are connected to the transporting device 50 consist of a transparent material. As a result, the player can visually observe the medals that are conveyed to the medal accommodating part 90 by the transporting device 50 and rails 45 via the window part 14 (see Fig. 1).

[0058] Next, the medal accommodating part 90 will be described with reference to the attached figures.

[0059] Fig. 5A is a plan view which schematically shows the medal accommodating part 90 shown in Fig. 1, and Fig. 5B is a sectional view along line A-A in Fig. 5A.

[0060] As is shown in Figs. 5A and 5B, the medal accommodating part 90 has a substantially hexagonal spindle shape; furthermore, as is shown in Fig. 5A, six opening-and-closing parts 91 are formed in the circumferential edge part of the medal accommodating part 90 so that these opening-and-closing parts can open and close.

[0061] When the opening-and-closing parts 91 are in a closed state, the medals that are carried on the inclined surface 98 are blocked by the opening-and-closing parts 91. Then, when the opening-and-closing parts 91 are lowered so that the opening-and-closing parts 91 are placed in an open state, the medals carried on the inclined surface 98 slide downward, and move into the medal accumulating parts 20 (20a through 20d).

[0062] In the gaming machine 10 of this embodiment, a supply drawing that is used to select the medal carrying location 27 that is the object of medal supply among the six medal carrying locations 27 of the medal accommodating part 90 is performed each time that a specified period of time (e. g., 5 minutes) elapses. The opening-and-closing part 91 for the selected medal carrying location 27 is placed in an open state in accordance with the results of this supply drawing, and the medals accommodated in the medal accommodating part 90 are supplied to the medal accumulating part 20a disposed on the medal carrying location 27.

[0063] As is shown in Fig. 5B, a tooth-form part 95 is disposed on the lower part of each opening-and-closing part 91. Furthermore, a gear 93 attached to the shaft of an opening-and-closing motor 92 (not shown in the figures) is disposed in the vicinity of the lower end of the tooth-form part 95. The gear 93 engages with a gear 94 that is disposed between the tooth-form part 95 of the opening-and-closing part 91 and the gear 93, and the gear 94 engages with the tooth-form part 95.

[0064] Furthermore, a raising limit position sensor 96 which is a mechanical type sensor is disposed in the vicinity of the upper end of the tooth-form part 95, and a lowering limit position sensor which is a mechanical type sensor is disposed on the upper side of the gear 94 in the vicinity of the tooth-form part 95.

[0065] When the opening-and-closing part 91 is to be opened, the opening-and-closing motor 92 operates so

that the gear 93 rotates in the right-hand direction, thus causing the opening-and-closing part 91 to be lowered. Then, when a contact 95a disposed on the upper end of the tooth-form part 95 is detected by the lowering limit position sensor 97 during the lowering of the opening-and-closing part 91, the rotation of the opening-and-closing motor 92 is stopped. Then, when a fixed period of time (e. g., 5 seconds) has elapsed, the opening-and-closing motor 92 is caused to rotate in the reverse direction (left-hand rotation), so that the opening-and-closing part 91 is raised. When the contact 95a is detected by the raising limit position sensor 96 during the raising of the opening-and-closing part 91, the rotation of the opening-and-closing motor 92 is stopped.

[0066] The supply of medals to the medal accumulating part 20a from the medal accommodating part 90 is accomplished by the raising and lowering of the above-mentioned opening-and-closing part 91.

[0067] Furthermore, in Fig. 5B, only the tooth-form part 95 disposed on one side (the upper side in Fig. 5A) of the opening-and-closing part 91 is shown; however, the opening-and-closing part 91 has tooth-form parts 95 on both the left and right sides, and is constructed so that the both the left and right tooth-form parts 95 can be driven by the motor 92. Furthermore, the raising limit position sensor 96 and lowering limit position sensor 97 may be disposed on both the left and right sides, or may be disposed on only one side. In a case where the raising limit position sensor 96 and lowering limit position sensor 97 are disposed on one side of the opening-and-closing part 91, the detection of the contact 95a by the raising limit position sensor 96 and lowering limit position sensor 97 is acknowledged, and the rotation of motors 92 respectively provided for both the left and right tooth-form parts 95 is stopped.

[0068] Next, the launching device 16 will be described with reference to the attached figures.

[0069] Fig. 6 is a sectional view which shows the area in the vicinity of one of the launching devices 16 of the housing 12 schematically. Furthermore, in Fig. 6, for convenience of description, a state is shown in which a portion of this launching device 16 is viewed in a sectional view.

[0070] As is shown in Fig. 6, launching device 16 is attached on the lower side of the window part 14 of the housing 12 so that this launching device 16 can pivot within a specified range in the vertical direction and left-right direction. The player can cause the launching device 16 to pivot in the vertical direction and left-right direction by operating a lever 120 that is disposed on the launching device 16. Furthermore, a launch button 122 is disposed on this lever 120, and the player can launch medals 1 by pressing this launch button 122.

[0071] A medal loading opening 118 is formed in the left side of the launching device 16, and a medal launching opening 119 is formed in the right side of the launching device 16. Furthermore, guide rails 123 that communicate with the medal loading opening 118 and medal

launching opening 119 are disposed inside the launching device 16. These guide rails 123 are disposed so that the rails are inclined downward toward the inside end, and are bent upward at an intermediate point. Furthermore, a stopper 121 is disposed inside the launching device 16, and a shutter 124 is disposed to the inside of the stopper 121. The stopper 121 can be moved upward and downward by the operation of a solenoid that is attached to the stopper 121, and the shutter 124 can be opened and closed by the operation of a motor that is attached to the shutter 124. Furthermore, the stopper 121 and shutter 124 are disposed at a spacing that is greater than the diameter of the medals 1.

[0072] Furthermore, a launching roller 125 is attached to a launching motor (not shown in the figures) on the right side of the shutter 124. The launching roller 125 can be caused to rotate in the direction indicated by the arrow in the figure by the operation of the launching motor. Furthermore, the launching roller 125 is disposed so that this roller contacts the medals 1 that slide downward along the guide rails 123. When the launching roller 125 contacts the medals 1 that slide downward along the guide rails 123 while the launching roller 125 is rotating, the medals 1 can be accelerated, so that the medals 1 can be launched in a good attitude from the medal launching opening 119.

[0073] When a plurality of medals 1 enter the medal loading opening 118, the plurality of medals 1 are blocked by the shutter 124. In this case, the stopper 121 is in an open state, and one medal 1 is present between the stopper 121 and the shutter 124. When the launch button 122 is pressed, the stopper 121 moves downward, so that the medal 1 that is present in front of the stopper is blocked; then, immediately afterward, the shutter 124 is placed in a pivoted open state, and the launching roller 125 rotates, so that the medal 1 that is present between the stopper 121 and shutter 124 slides downward along the guide rails 123, is accelerated by contact with the launching roller 125, and is launched from the medal launching opening 119.

[0074] In the figure, as shown by the arrow of chain double-dashed line, the medals 1 launched from the medal launching opening 119 are projected into the game space 13.

[0075] When a specified time (e. g., 0.5 seconds) has elapsed following the placing of the shutter 124 in an open state, the shutter 124 pivots and is placed in a closed state; furthermore, the stopper 121 moves upward so that a medal 1 is fed out as far as the shutter 124. Then, when the launch button 122 is pressed again, this medal 1 is launched by the method described above. Furthermore, for example, the abovementioned elapsed time can be set in accordance with the period of time extending from the point in time at which the shutter 124 is placed in an open state (when the launching device 16 approaches most closely to a horizontal attitude) to the point in time at which the medal 1 passes the lower end of the shutter 124 or the like. Furthermore, it would also

be possible to install a sensor in the vicinity of the medal launching opening 119, and to devise the system so that the shutter 124 is placed in a closed state when the medal that is accelerated by the launching roller 125 is detected by the abovementioned sensor after the shutter 124 has been placed in an open state.

[0076] Fig. 7 is a block diagram showing a schematic view of the internal composition of a gaming machine of this embodiment.

[0077] As shown in Fig. 7, a control part 60 is provided inside the frame body 12 of the gaming machine 10. The control part 60 comprises a central processing unit (CPU) 66, a ROM 62 and a RAM 64.

[0078] The ROM 62 stores game programs that control the flow of the overall games of the gaming machine 10, programs relating to the drawing that is conducted in order to establish the presence or absence of a jackpot, programs used to conduct the supply drawing that is used to select the medal carrying location 27 that is the object of medal supply, audio data that is required in order to generate background music, sound effects, and the like in accordance with the game conditions, and other data. Furthermore, the ROM 62 also stores drawing probability tables that are required in order to conduct the drawing that is used to determine the presence or absence of a jackpot, supply drawing probability tables that are required in order to conduct the supply drawing used to select the medal carrying location 27 that is the object of medal supply among the six medal carrying locations 27, and the like.

[0079] The CPU 66 is connected to the medal sensors 28 and the LED lamps 23 (23a through 23d) via an interface circuit 61. When it is detected by a medal sensor 28 that a medal has entered a medal receiving opening 22, a detection signal is sent to the CPU 66 via the interface circuit 61. Thereupon, if a drawing for determining the presence or absence of a jackpot is conducted and the jackpot is activated, then a control signal is sent to the two LED lamps 23 relating to the medal accumulating part to which it is determined to pay out medals on the basis of the drawing result, and this control signal causes the two LED lamps 23 to be lit with the same color.

[0080] Furthermore, the CPU 66 is connected to the medal accommodating part 90 via an interface circuit 63. Each time that a specified period of time has elapsed, the CPU 66 sends a driving signal to the opening-and-closing motor 92, and causes the opening-and-closing motor 92 to operate. When the CPU 66 receives a detection signal from the lowering limit position sensor 97 during the lowering of the opening-and-closing part 91 by the rotation of the opening-and-closing motor 92, the CPU 66 sends a control signal to the opening-and-closing motor 92 and stops the opening-and-closing motor 92. Then, after a fixed period of time (5 seconds) has elapsed, the CPU 66 again sends a control signal to the opening-and-closing motor 92 and causes the opening-and-closing motor 92 to rotate in the reverse direction so that the opening-and-closing part 91 is raised. Further-

more, when the CPU 66 receives a detection signal from the raising limit position sensor 96 during the raising of the opening-and-closing part 91, the CPU 66 sends a control signal to the opening-and-closing motor 92 and stops the opening-and-closing motor 92.

[0081] Furthermore, the CPU 66 is connected to a stepping motor 32, motor 35, raising and lowering motor 102, and speaker 46 via an interface circuit 65. The stepping motor 32 is used to open and close the opening-and-closing doors 21 (21a through 21d) of the medal accumulating parts 20 (20a through 20d), and the motor 35 is used to cause a reciprocating motion of the abovementioned field plate.

[0082] As described above, the raising and lowering motor 102 is used to move the medal receiving opening upwards and downwards in the vertical direction.

[0083] As described above, the speaker 46 is used to output background music, voice, sound effects, or the like, in accordance with the game conditions.

[0084] The game that is played in the gaming machine constituting this embodiment will be described below with reference to Figs. 8 to 10.

[0085] Fig. 8 is a flow chart which shows the game execution processing routine that is executed in the gaming machine 10 shown in Fig. 1. This subroutine is called up and executed when the power supply of the gaming machine 10 is switched on.

[0086] First, the CPU 66 determines whether or not a medal has entered either of the two medal receiving openings 22 (step S10). More specifically, the CPU 66 determines whether or not a detection signal has been received from the medal sensor 28 provided in the medal receiving opening 22 detecting a medal that has entered one of the two medal receiving openings 22. In cases where it is determined in step S10 that no medal has entered either of the two medal receiving openings, this subroutine is ended.

[0087] On the other hand, in cases where it is determined that a medal has entered one of the two medal receiving openings 22, the CPU 66 next executes drawing processing (step S12). At this step S12, the CPU 66 performs a drawing on the basis of the abovementioned drawing probability table in order to determine the presence or absence of a jackpot. The results of this drawing are stored in the RAM 64 as drawing data. In this drawing, a drawing is performed that determines whether a jackpot has been activated or missed with respect to paying out of medals from one or more of the four medal accumulating parts 20 (medal accumulating parts 20a through 20d). When the processing of this step S12 is executed, the control part 60 functions as drawing means.

[0088] Fig. 9 shows one example of the drawing probability table described above. Here, a case is described where the probability of a jackpot being activated with respect to the paying out of medals from one or more of the four medal accumulating parts is 1/32. Of course, in the present invention, the table used in the drawing for establishing the presence or absence of a jackpot acti-

vation is not limited to the example shown in Fig. 9.

[0089] In the drawing probability table shown in Fig. 9, the type of medal accumulating part to which medals are to be paid out is established in accordance with a random drawing value drawn within a range of 0 to 16383.

[0090] For example, no medals are paid out from any of the medal accumulating parts, if the random drawing value is in the range of 0 to 15871. In this case, it is ascertained that the jackpot has been missed.

[0091] Moreover, if the random drawing value is in the range of 15872 to 15935, then medals are paid out from the medal accumulating part 20a, among the four medal accumulating parts 20.

[0092] Moreover, if the random drawing value is in the range of 16128 to 16159, then medals are paid out from the two medal accumulating parts 20a and 20b among the four medal accumulating parts.

[0093] In this way, if a drawing is performed on the basis of the drawing probability table shown in Fig. 9, then depending on the result of the drawing, a jackpot is activated with respect to paying out medals from two or more medal accumulating parts of the four medal accumulating parts.

[0094] When the processing in step S12 is executed, the CPU 66 next executes processing that causes the LED lamps 23 to blink (step S14). When the processing of this step S14 is executed, all of the LED lamps 23 (23a through 23d) blink while sequentially changing color. Furthermore, the blinking of these LED lamps 23 is performed for a fixed period of time (e. g., 3 seconds).

[0095] When the processing of step S14 has been executed, the CPU 66 next executes processing for causing all of the LED lamps 23 (23a through 23d) to light on the basis of the drawing data stored in the RAM 64 as a result of executing the processing in step S12 (step S16).

[0096] When the processing in step S16 has been executed, the CPU 66 next determines whether or not the lit colors of the left and right-hand LED lamps 23 are the same (step S18). In this step S18, the CPU 66 determines whether or not the lit colors of the left and right-hand LED lamps 23 are the same, for all of the four medal accumulating parts 20.

[0097] If it is determined in step S18 that the lit colors of the left and right-hand LED lamps 23 are different in the case of all of the medal accumulating parts 20, then this subroutine is ended.

[0098] On the other hand, if it is determined in step S18 that the lit colors of the left and right-hand LED lamps 23 are the same in the case of any of the four medal accumulating parts 20, then the CPU 66 next executes processing for opening the opening-and-closing doors of the medal accumulating part 20 at which the lit colors of the left and right-hand LED lamps 23 are the same (step S20). In this step S20, the CPU 66 sends a driving signal to the stepping motor 32 and causes the opening-and-closing doors 21 to be lowered and placed in an open state. When this processing by the stepping motor 20 is executed and the opening-and-closing doors 21 are

placed in an open state, the medals that have accumulated in the medal accumulating part 20 are paid out.

[0099] When the processing of this step S20 is executed, the control part 60 and the stepping motor 32 function as pay-out means.

[0100] When the processing in step S20 has been executed, this subroutine is ended.

[0101] As described with reference to Fig. 8, in the gaming machine 10 of this embodiment, the entry of a medal into either of the two medal receiving openings 22 is acknowledged, a drawing for the purpose of determining the presence or absence of a jackpot is performed, and if the drawing results indicate that a jackpot has been activated, then the activating of the jackpot is notified to the player by means of the two LED lamps 23 lighting up with the same color, and medals are paid out from the medal accumulating part 20. On the other hand, if the drawing result indicates that a jackpot has not been activated (in other words, that it has been missed), then the two LED lamps 23 light up with different colors, thereby notifying the player that the drawing result indicates a miss.

[0102] Fig. 10 is a flow chart which shows the medal supply processing routine that is executed in the gaming machine 10 shown in Fig. 1. This subroutine is called up and executed when the power supply of the gaming machine 10 is switched on.

[0103] First, the CPU 66 determines whether or not a specified period of time (5 minutes) has elapsed (step S40). In cases where it is determined that this specified period of time has not elapsed, the CPU 66 again performs the determination processing of step S40. On the other hand, in cases where it is determined in step S40 that the abovementioned specified period of time has elapsed, the CPU 66 next executes supply drawing processing (step S42). In this step S42, the CPU 66 performs a drawing on the basis of the supply drawing probability table that is stored in the ROM 62, and selects the medal carrying location 27 that is the object of medal supply among the six medal carrying locations 27 on the basis of the drawing results.

[0104] When the processing of step S42 has been executed, the CPU 66 next sends a driving signal to the opening-and-closing motor 92 in order to open the opening-and-closing part 91 associated with the medal carrying location 27, that has been selected in step S42, and causes this opening-and-closing motor 92 to rotate (step S44). When the processing of this step S44 is executed, the opening-and-closing motor 92 rotates in the rightward direction, so that the opening-and-closing part 91 is lowered (see Fig. 5).

[0105] When the processing of step S44 has been executed, the CPU 66 next determines whether or not a detection signal has been received from the lowering limit position sensor 97 (step S46). Specifically, the CPU 66 determines whether or not a detection signal transmitted from the lowering limit position sensor 97 as a result of the contact 95a disposed on the comb-form part 95 being

detected by the lowering limit position sensor 97 during the lowering of the opening-and-closing part 91 has been received.

[0106] In cases where it is determined in step S46 that a detection signal has not been received, the CPU 66 again performs the determination processing of step S46.

[0107] On the other hand, in cases where it is determined in step S46 that a detection signal has been received, the CPU 66 next sends a stopping signal to the opening-and-closing motor 92 in order to stop the lowering of the opening-and-closing part 91, and thus stops the rotation of the opening-and-closing motor 92 (step S48).

[0108] When the processing of step S48 has been executed, the CPU 66 next waits until a specified period of time (5 seconds) has elapsed, and maintains the stopped state of the opening-and-closing part 91 (step S50). Then, in order to raise the opening-and-closing part 91, the CPU 66 sends a driving signal to the opening-and-closing motor 92, and causes the opening-and-closing motor 92 to perform reverse rotation (step S52). When the processing of this step S52 is executed, the opening-and-closing motor 92 rotates in the leftward direction, so that the opening-and-closing part 91 is raised (see Fig. 5).

[0109] When the processing of step S52 has been executed, the CPU 66 next determines whether or not a detection signal has been received from the raising limit position sensor 96 (step S54). Specifically, the CPU 66 determines whether or not a detection signal transmitted from the raising limit position sensor 96 as a result of the contact 95a disposed on the comb-form part 95 being detected by the raising limit position sensor 96 during the raising of the opening-and-closing part 91 has been received.

[0110] In cases where it is determined in step S54 that a detection signal has not been received, the CPU 66 again performs the determination processing of step S54.

[0111] In cases where it is determined in step S54 that a detection signal has been received, the CPU 66 next sends a stopping signal to the opening-and-closing motor 92 in order to stop the raising of the opening-and-closing part 91, and thus stops the rotation of the opening-and-closing motor 92 (step S56). When the processing of step S56 has been executed, this subroutine is ended.

[0112] In the gaming machine 10 of this embodiment, as is described with reference to Fig. 10, a supply drawing that is used to select the medal carrying location 27 that is the object of medal supply is performed, and the opening-and-closing part 91 is placed in an open state for a fixed period of time (5 seconds) in order to supply medals to the medal carrying location 27 that is selected on the basis of the drawing results. When the opening-and-closing part 91 is placed in an open state, the medals slide downward along the inclined surface 98 of the medal accommodating part 90, so that the medals move into the medal accumulating part 20 installed on the medal carrying location 27.

[0113] As described with reference to Fig. 1 to Fig. 10,

in the gaming machine 10 relating to the embodiment of the present invention, since the medal receiving openings 22 can be moved upwards and downwards by means of the moving unit 100, the game is played while sequentially changing the speed, direction, and the like, at which the medals enter into the moving medal receiving openings 22. Consequently, it is possible to achieve game contents having a rich sense of movement. Moreover, in order to increase the frequency at which the medals enter into the medal receiving openings 22, it is necessary to adjust the speed, direction, and the like, at which the medals are introduced into same, and hence the skill of the player is reflected in the game results. Therefore, the player can become absorbed in the game, without feeling boredom.

[0114] Furthermore, in the gaming machine 10 of this embodiment, medals are paid out from two or more of the four medal accumulating parts 20, depending on the results of a drawing that is used to determine the presence or absence of a jackpot, and hence there is an opportunity of acquiring a large number of medals at one time, thereby creating a strong sense of anticipation.

[0115] Furthermore, in the gaming machine 10 of this embodiment, the medals that are transported by the transporting devices 50 and rails 45 are accommodated in the medal accommodating part 90, and these medals that are accommodated in the medal accommodating part 90 are supplied to the medal carrying locations 27 that are selected on the basis of the supply drawing. Accordingly, in the stage in which the medals are transported by the transporting devices 50 and rails 45, the medal carrying locations 27 to which the medals are being supplied cannot be recognized. Accordingly, all of the players playing the game using six game fields 15 can be enveloped by a feeling of anticipation regarding the supply of the medals, so that the interest of the game can be sustained.

[0116] Furthermore, in the gaming machine 10 of this embodiment, since the machine is constructed so that the medals that are transported by the transporting devices 50 and rails 45 can be visually recognized by the players, the quantity of medals that are transported by the transporting devices 50 and rails 45 can be recognized. Accordingly, all of the players playing the game can be more strongly enveloped by a feeling of anticipation regarding the supply of the medals.

[0117] Furthermore, in the gaming machine 10 of this embodiment, the medal accumulating parts 20a through 20c are respectively disposed at higher levels than the medal accumulating parts 20b through 20d that are adjacent on the side of the medal discharge opening 17, so that the medals that are paid out from the medal accumulating parts 20a through 20c move as a result of their own weight, and are respectively accumulated in the medal accumulating parts 20b through 20d. Accordingly, there is no need for a device that is used to move the medals or the like, and as a result, the cost of manufacturing the gaming machine can be reduced.

[0118] In the gaming machine 10 of this embodiment, notification that a jackpot has been activated is made by lighting both of the two LED lamps that are installed in each of the four medal accumulating parts 20 with the same lit color. Accordingly, the activating of a jackpot can be perceived directly. Furthermore, the feeling of achievement at having activated a jackpot can be sufficiently experienced as a result of such notification that a jackpot has been activated, and overlooking of the scenario in which the medals are paid out can be prevented. As a result, the players can thoroughly enjoy the game.

[0119] Furthermore, in the gaming machine 10 of this embodiment, the players are notified of the drawing results of the drawing that is used to determine the presence or absence of a jackpot by means of LED lamps which are highly visible, and hence, the activating of jackpots can be confirmed more reliably.

[0120] In the example described above, a gaming machine is constructed in such a manner that the medal receiving openings can be moved upwards and downwards, but in the present invention, the direction of movement of the medal receiving openings is not limited in particular. For example, the gaming machine may also be constructed in such a manner that the medal receiving openings can be moved rightwards and leftwards, or forwards and backwards, and moreover, the gaming machine may also be constructed in such a manner that the medal receiving openings move in a circular fashion.

[0121] Moreover, it is also possible to provide openable and closable lids in the opening sections of the medal receiving openings where the medals enter into same, these lids being placed in an open state or a closed state at prescribed timings. By this means, it is possible to make it more difficult for medals to enter into the medal receiving openings, and hence the difficulty of the game can be adjusted.

[0122] Furthermore, in the abovementioned example, a case is described where a common medal receiving opening is provided for a plurality of medal accumulating parts, entry of medals into the medal receiving opening is acknowledged, and a drawing is performed in order to establish the presence or absence of a jackpot with respect to the paying out of medals from any one of the plurality of medal accumulating parts, but in the present invention, for example, medal receiving openings are provided corresponding respectively to each of the plurality of medal accumulating parts, entry of medals into a medal receiving opening is acknowledged, and a drawing can be performed in order to establish the presence or absence of a jackpot with respect to the paying out of medals from the medal accumulating part relating to that medal receiving opening.

[0123] In the abovementioned example, a case is described in which medal accumulating parts are respectively disposed at higher levels than the medal accumulating parts that are adjacent on the side of the medal discharge opening, and the gaming machine is constructed so that the medals from the respective medal accu-

mulating part move as a result of their own weight from the respective medal accumulating parts, and are accumulated in the medal accumulating parts that are adjacent on the side of the medal discharge opening. However, in the present invention, as long as the respective medal accumulating parts are disposed so that these medal accumulating parts are sequentially disposed and ranged along the medal discharge opening, there are no particular restrictions on the positional relationship of the respective medal accumulating parts; for example, the gaming machine may be constructed so that a medal accumulating part A among a plurality of medal accumulating parts is positioned beneath a medal accumulating part B that is adjacent on the side of the medal discharge opening, in such a manner that medals that are paid out from the medal accumulating part A are moved into the medal accumulating part B by means of a moving device, such as a conveyor or the like.

[0124] In the abovementioned example, a case is described in which medals that are supplied from a medal accommodating part are accumulated in the uppermost medal accumulating part of a plurality of medal accumulating parts provided in the medal carrying location, but in the present invention, there is no particular restriction on the medal accumulating part where the medals that are supplied from the medal accommodating part are accumulated, and these medals may be accumulated in any medal accumulating part of the plurality of medal accumulating parts.

[0125] Moreover, in the present invention, it is also possible to provide no medal accumulating part in the medal carrying location; for example, medals that are supplied from the medal accommodating part 90 may be caused to slide down an inclined surface of the medal carrying location so that they can be given to the player via the medal discharge opening.

[0126] In the present invention, for example, the gaming machine may be constructed in such a manner that the collision of a medal with a movable target provided in a prescribed position inside the game space is acknowledged, and a drawing is performed in order to determine the presence or absence of a jackpot.

[0127] Furthermore, in the abovementioned example, a case is described in which notification of the activating of a jackpot is made in cases where the lit color of two LED lamps disposed in the medal accumulating part is the same color. In the present invention, however, there are no particular restrictions on the method that is used to notify the players of the activating of a jackpot. For example, such notification can be accomplished by increasing the brightness of all of a plurality of LED lamps corresponding to the medal accumulating part, or such notification can be accomplished by causing all of a plurality of LED lamps corresponding to the medal accumulating part to blink. For example, the activating of a jackpot can also be reported by displaying a stopped combination of patterns or the like displayed by respective display devices comprising a plurality of LED pattern display de-

vices corresponding to the medal accumulating parts as a specified combination (e. g., a combination in which all of the patterns are "7").

[0128] Furthermore, in the abovementioned example, a case is described in which the passage of a fixed period of time (e. g., 5 minutes) is acknowledged, a supply drawing for the purpose of selecting the medal carrying location constituting the object of medal supply is performed, and medals are supplied to the medal carrying location selected in accordance with the results of this supply drawing. In the present invention, however, there are no particular restrictions on the conditions used to select the medal carrying location to which medals are supplied; for example, the activating of a jackpot and resulting pay-out of medals from one of the four medal accumulating parts are acknowledged, and the selection of the medal carrying location to which medals are to be supplied is performed accordingly.

[0129] The present invention is a gaming machine comprising a medal receiving opening 22, a medal discharge opening 17 and a plurality of medal accumulating parts 20(20a through 20d), wherein the plurality of medal accumulating parts 20a through 20d are disposed so that these parts are sequentially disposed and ranged along the medal discharge opening 17, the medals that are paid out from the respective medal accumulating parts 20a through 20c are moved sequentially and accumulated in the medal accumulating parts 20b through 20d that are adjacent on the side of the medal discharge opening 17, and the medals that are paid out from the medal accumulating part 20d located closely to the medal discharge opening 17 can be given to the player, the gaming machine comprising drawing means which perform a drawing used to determine the presence or absence of a jackpot when medals are detected, pay-out means 21a through 21d which pay out medals from the medal accumulating parts 20a through 20d in accordance with the drawing results of the drawing means, and moving means 100 which move the medal receiving opening 22.

Claims

1. A gaming machine (10) comprising:

a projection device for projection of medals into a gaming space (15); a medal receiving opening (22) for receiving medals projected by said projection device;
moving means (100) for moving said medal receiving opening (22); detecting means (28) for detecting those of said medals that have entered into said medal receiving opening (22);
a plurality of medal accumulating parts (22a-22d);
pay-out means (21a-21d) for paying out medals from said medal accumulating parts (22a-22d); and

a medal discharge opening (17) for discharging medals to the outside of said gaming space (15); **characterized in that** said gaming machine (10) comprises drawing means for performing a drawing in order to determine the presence or absence of a jackpot when a medal is detected by said detecting means (28), said pay-out means (21a-21d) paying out said medals from said medal accumulating parts (22a-22d) in accordance with drawing results of said drawing means, and further **characterized in that** said gaming machine (10) is constructed so that said plurality of medal accumulating parts (20a-20d) are sequentially disposed and ranged along said medal discharge opening (17) in such a way that medals paid out from a respective one of said medal accumulating parts (20a-20d) are sequentially moved to and accumulated in those of said medal accumulating parts (20a-20d) that are adjacent on the side of said medal discharge opening (17), and that medals paid out from a specific one of said medal accumulating parts (20a-20d) located closest to said medal discharge opening (17) are discharged from said medal discharge opening (17) and given to the player.

2. The gaming machine according to claim 1, wherein said moving means is a moving unit in which said medal receiving opening (22) is disposed in a suspended fashion, said moving unit causing said medal receiving opening (22) to move upwards and downwards.

3. The gaming machine according to claim 2, wherein said moving unit comprises: a frame body (101) fixed to a ceiling part inside said gaming space; a raising and lowering motor (102) provided inside said frame body (101); and a rope winding part (103) attached to the shaft of said raising and lowering motor (102); the other end of the rope (104) that is wound about said rope winding part (103) being attached to a member (106) coupled to said medal receiving opening (22).

4. The gaming machine according to any one of claims 1 to 3, wherein an openable and closable lid body is provided in the opening section of said medal receiving opening (22) into which the medals enter, in such a manner that an opening and closing operation of said lid body is performed with a prescribed timing.

5. The gaming machine according to any one of claims 1 to 4, wherein said drawing means performs a drawing in order to determine a presence or absence of a jackpot with respect to the paying out of medals from two or more medal accumulating parts of said plurality of medal accumulating parts (20a-20d),

when the medals have been detected by said detecting means (28).

6. The gaming machine according to any one of claims 1 to 5, comprising a notification means (23) for making a notification of the drawing results of said drawing means. 5
7. The gaming machine according to claim 6, wherein said notification means comprises an LED lamp (23). 10
8. The gaming machine according to claim 6, wherein said notification means comprises an LED pattern display device. 15
9. The gaming machine according to any one of claims 1 to 8, wherein said respective medal accumulating parts (20a-20d) are disposed above the medal accumulating parts (20a-20d) that are adjacent on the side of said medal discharge opening (17), and medals in the respective medal accumulating parts (20a-20d) are caused to move by their own weight from these respective medal accumulating parts (20a-20d), and are accumulated in the medal accumulating parts (20a-20d) that are adjacent on the side of said medal discharge opening (17). 20 25

Patentansprüche

1. Spielautomat (10), umfassend:

eine Wurfvorrichtung zum Werfen von Münzen in einen Spielraum (15); eine Münzaufnahmeöffnung (22) zum Aufnehmen von durch die Wurfvorrichtung geworfenen Münzen; ein Bewegungsmittel (100) zum Bewegen der Münzaufnahmeöffnung (22); ein Erfassungsmittel (28) zum Erfassen derjenigen der Münzen, welche in die Münzaufnahmeöffnung (22) eingedrungen sind; eine Mehrzahl von Münzsammelteilen (22a - 22d); Auszahlungsmittel (21a - 21 d) zum Auszahlen von Münzen aus den Münzsammelteilen (22a - 22d); und eine Münzabgabeöffnung (17) zum Abgeben von Münzen nach außerhalb des Spielraums (15)

dadurch gekennzeichnet, dass

der Spielautomat (10) ein Ziehungsmittel umfasst, um eine Ziehung durchzuführen mit dem Ziel, dann, wenn eine Münze durch das Erfassungsmittel (28) erfasst wird, das Vorhandensein oder Nicht-Vorhandenseins eines Jackpots zu bestimmen, wobei die Auszahlungsmittel (21a - 21 d) die Münzen aus den Münzsammelteilen (22a - 22d) nach Maßgabe von Ziehungs-

ergebnissen des Ziehungsmittels auszahlen, und ferner **dadurch gekennzeichnet, dass** der Spielautomat (10) derart konstruiert ist, dass die Mehrzahl von Münzsammelteilen (20a - 20d) aufeinander folgend angeordnet sind und sich in einer solchen Weise entlang der Münzabgabeöffnung (17) erstrecken, dass von einem jeweiligen der Münzsammelteile (20a - 20d) ausgezahlte Münzen aufeinander folgend zu denjenigen der Münzsammelteile (20a - 20d) transportiert und dort gesammelt werden, welche auf der Seite der Münzabgabeöffnung (17) benachbart sind, und dass von einem spezifischen der Münzsammelteile (20a - 20d), welcher der Münzabgabeöffnung (17) am nächsten liegt, ausgezahlte Münzen von der Münzabgabeöffnung (17) abgegeben und dem Spieler übergeben werden.

2. Spielautomat nach Anspruch 1, wobei das Bewegungsmittel eine Bewegungseinheit ist, in welcher die Münzaufnahmeöffnung (22) in einer hängenden Weise angeordnet ist, wobei die Bewegungseinheit bewirkt, dass sich die Münzaufnahmeöffnung (22) nach oben und nach unten bewegt.
3. Spielautomat nach Anspruch 2, wobei die Bewegungseinheit umfasst:

einen Rahmenkörper (101), welcher an einem Deckenteil innerhalb des Spielraums befestigt ist; einen Hebe- und Absenkmotor (102), welcher innerhalb Rahmenkörpers (101) vorgesehen ist; und einen Seilwindenteil (103), welcher an der Welle des Hebe- und Absenkmotors (102) angebracht ist; wobei das andere Ende des Seils (104), welches um den Seilwindenteil (103) gewickelt ist, an einem Element (106) angebracht ist, welches mit der Münzaufnahmeöffnung (22) gekoppelt ist.

4. Spielautomat nach einem der Ansprüche 1 bis 3, wobei ein Deckelkörper, der geöffnet und geschlossen werden kann, in dem Öffnungsabschnitt der Münzaufnahmeöffnung (22), in welche die Münzen eindringen, in einer solchen Weise vorgesehen ist, dass mit einer vorbestimmten Zeitsteuerung ein Öffnungs- und Schließvorgang des Deckelkörpers durchgeführt wird.
5. Spielautomat nach einem der Ansprüche 1 bis 4, wobei das Ziehungsmittel eine Ziehung durchführt, um ein Vorhandensein oder Nicht-Vorhandensein eines Jackpots bezüglich des Auszahlens von Münzen aus zweien oder mehreren Münzsammelteilen der Mehrzahl von Münzsammelteilen (20a - 20d) zu bestimmen, wenn die Münzen durch das Erfassungsmittel (28) erfasst worden sind.

6. Spielautomat nach einem der Ansprüche 1 bis 5, umfassend ein Bekanntgabemittel (23) um eine Bekanntgabe der Ziehungsergebnisse des Ziehungs-
mittels durchzuführen. 5
7. Spielautomat nach Anspruch 6, wobei das Bekannt-
gabemittel eine LED-Lampe (23) umfasst. 10
8. Spielautomat nach Anspruch 6, wobei das Bekannt-
gabemittel eine LED-Musteranzeigevorrichtung um-
fasst. 15
9. Spielautomat nach einem der Ansprüche 1 bis 8, wo-
bei die jeweiligen Münzsammelteile (20a - 20d) ober-
halb derjenigen Münzsammelteile (20a - 20d) ange-
ordnet sind, welche auf der Seite der Münzabgabe-
öffnung (17) benachbart sind, und
wobei bewirkt wird, dass Münzen in den jeweiligen
Münzsammelteilen (20a - 20d) sich durch ihr eigenes
Gewicht aus diesen Münzsammelteilen (20a - 20d)
bewegen und in denjenigen Münzsammelteilen (20a
- 20d) gesammelt werden, die auf der Seite der
Münzabgabeöffnung (17) benachbart sind. 20

Revendications

1. Machine de jeu (10) comprenant :

un dispositif de projection pour projeter des je-
tons dans un espace de jeu (15) ; 30
une ouverture de réception de jetons (22) pour
recevoir des jetons projetés par ledit dispositif
de projection ;
des moyens de déplacement (100) pour dépla-
cer ladite ouverture de réception de jetons (22) ; 35
des moyens de détection (28) pour détecter les
jetons desdits jetons qui sont entrés dans ladite
ouverture de réception de jetons (22) ;
une pluralité de parties d'accumulation de jetons
(22a - 22d) ; 40
des moyens de récupération (21 a - 21 d) pour
récupérer les jetons desdites parties d'accumu-
lation de jetons (22a - 22d) ; et
une ouverture d'évacuation de jetons (17) pour
évacuer les jetons à l'extérieur dudit espace de
jeu (15) ; 45
caractérisée en ce que ladite machine de jeu
(10) comprend des moyens de retrait pour réa-
liser un retrait afin de déterminer la présence ou 50
l'absence d'un jackpot lorsqu'un jeton est détec-
té dans lesdits moyens de détection (28), des-
dits moyens de récupération (21 a - 21 d) récu-
pérant lesdits jetons desdites parties d'accumu-
lation de jetons (22a - 22d) selon les résultats de
retrait desdits moyens de retrait, et **caractéri-
sée en outre en ce que** ladite machine de jeu
(10) est construite de sorte que ladite pluralité 55

de parties d'accumulation de jetons (20a - 20d)
est disposée en séquence et rangée le long de
ladite ouverture d'évacuation de jetons (17) de
sorte que les jetons récupérés d'une partie res-
pective desdites parties d'accumulation de je-
tons (20a - 20d) sont déplacés en séquence et
accumulés dans ces parties desdites parties
d'accumulation de jetons (20a - 20d) qui sont ad-
jacentes du côté de ladite ouverture d'évacua-
tion de jetons (17) et **en ce que** lesdits jetons
récupérés d'une partie spécifique desdites par-
ties d'accumulation de jetons (20a - 20d) situées
le plus à proximité de ladite ouverture d'évacua-
tion de jetons (17) sont évacués de ladite ouver-
ture de décharge de jetons (17) et donnés aux
joueurs.

2. Machine de jeu selon la revendication 1, dans la-
quelle lesdits moyens de déplacement sont une unité
de déplacement dans laquelle ladite ouverture de
réception de jetons (22) est disposée d'une manière
suspendue, ladite unité de déplacement provoquant
la montée et la descente de ladite ouverture de ré-
ception de jetons (22). 25
3. Machine de jeu selon la revendication 2, dans la-
quelle ladite unité de déplacement comprend : un
corps de châssis (101) fixé sur une partie de plafond
à l'intérieur dudit espace de jeu ; un moteur de levage
et d'abaissement (102) prévu à l'intérieur dudit corps
de châssis (101) ; et une partie d'enroulement de
câble (103) fixée à l'arbre dudit moteur de levage et
d'abaissement (102) ; l'autre extrémité du câble
(104), qui est entourée autour de ladite partie d'en-
roulement de câble (103) étant fixé à un élément
(106) couplé à ladite ouverture de réception de je-
tons (22). 35
4. Machine de jeu selon l'une quelconque des reven-
dications 1 à 3, dans laquelle un corps de couvercle
pouvant s'ouvrir et se refermer est prévu dans la
section d'ouverture de ladite ouverture de réception
de jetons (22) dans laquelle les jetons pénètrent, de
sorte qu'une opération d'ouverture et de fermeture
dudit corps de couvercle est réalisée avec un temps
prédéterminé. 40
5. Machine de jeu selon l'une quelconque des reven-
dications 1 à 4, dans laquelle lesdits moyens de re-
trait réalisent un retrait afin de déterminer une pré-
sence ou absence d'un jackpot par rapport à la ré-
cupération des jetons de deux parties d'accumula-
tion de jetons ou plus de ladite pluralité de parties
d'accumulation de jetons (20a - 20d) lorsque les je-
tons ont été détectés par lesdits moyens de détection
(28). 45
6. Machine de jeu selon l'une quelconque des reven-

dications 1 à 5, comprenant des moyens de notification (23) pour réaliser une notification des résultats de retrait desdits moyens de retrait.

7. Machine de jeu selon la revendication 6, dans laquelle lesdits moyens de notification comprennent une lampe à diodes électroluminescentes (23). 5
8. Machine de jeu selon la revendication 6, dans laquelle lesdits moyens de notification comprennent un dispositif d'affichage à diodes électroluminescentes. 10
9. Machine de jeu selon l'une quelconque des revendications 1 à 8, dans laquelle lesdites parties d'accumulation de jetons (20a -20d) respectives sont disposées au-dessus des parties d'accumulation de jetons (20a -20d) qui sont adjacentes du côté de ladite ouverture d'évacuation de jetons (17) et des jetons dans les parties d'accumulation de jetons (20a -20d) respectives sont amenés par leur propre poids à partir de ces parties d'accumulation de jetons (20a -20d) respectives et sont accumulés dans les parties d'accumulation de jetons (20a -20d) qui sont adjacentes au côté de ladite ouverture d'évacuation de jetons (17). 15 20 25

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FIG. 1

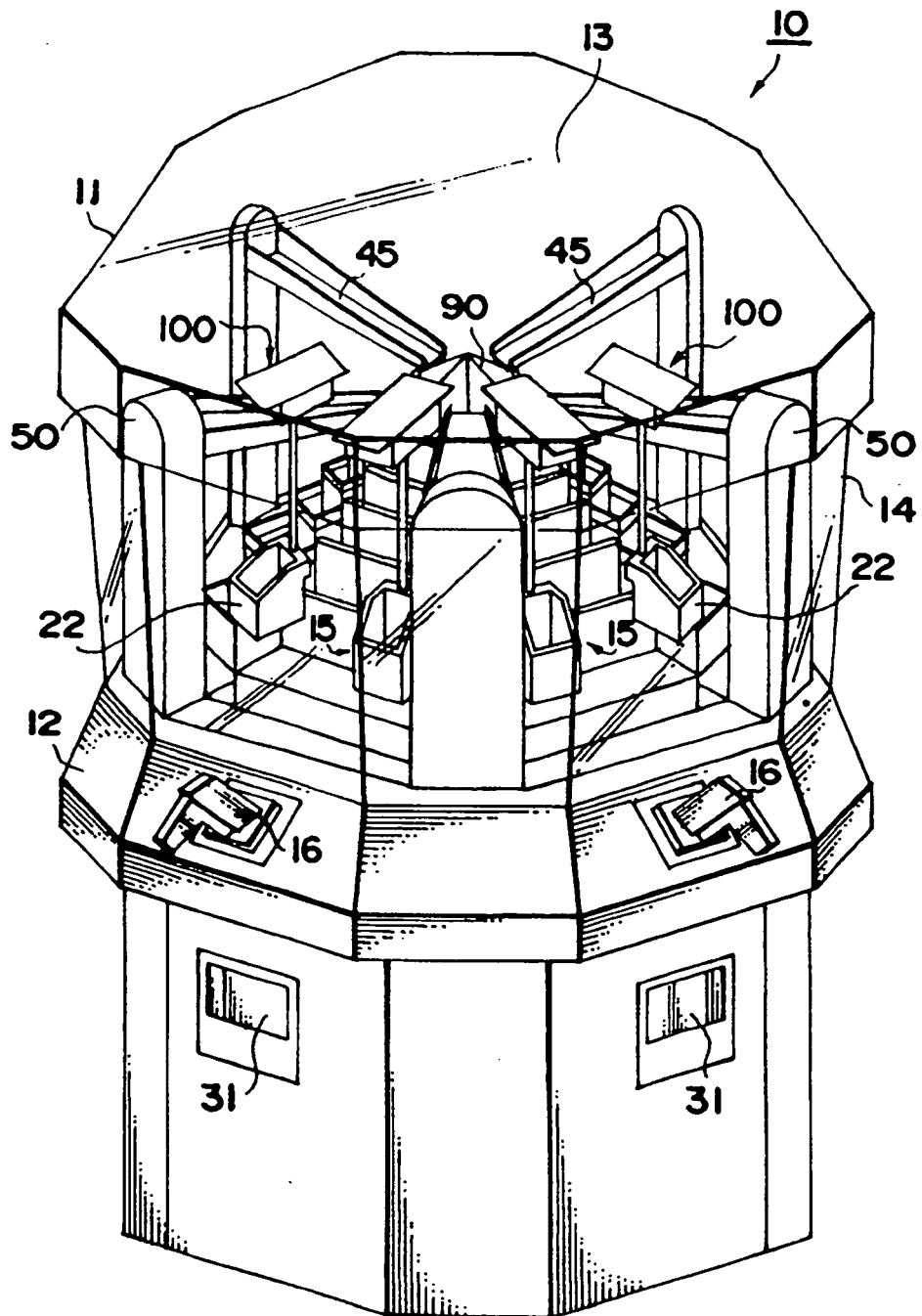


FIG. 2

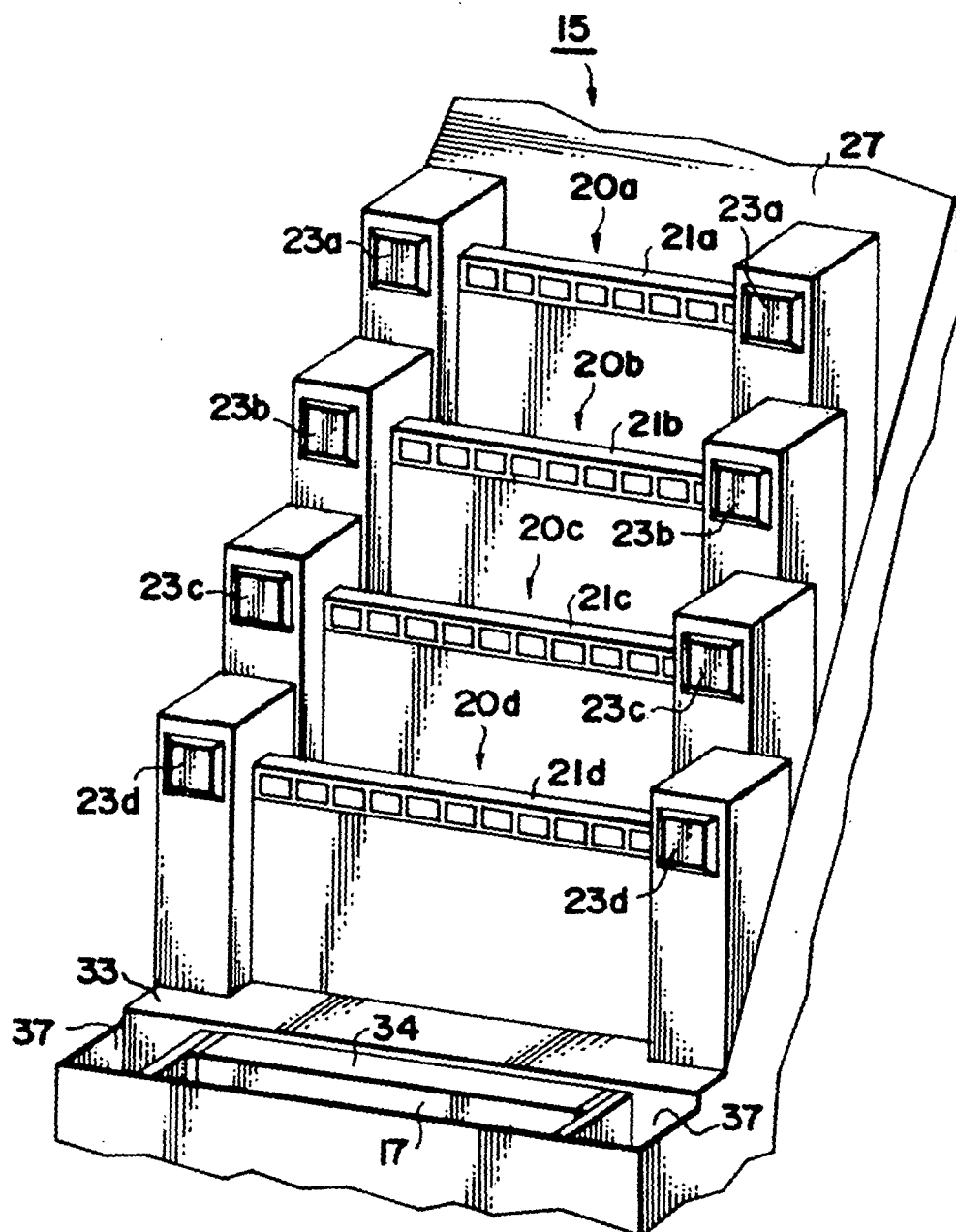


FIG.3

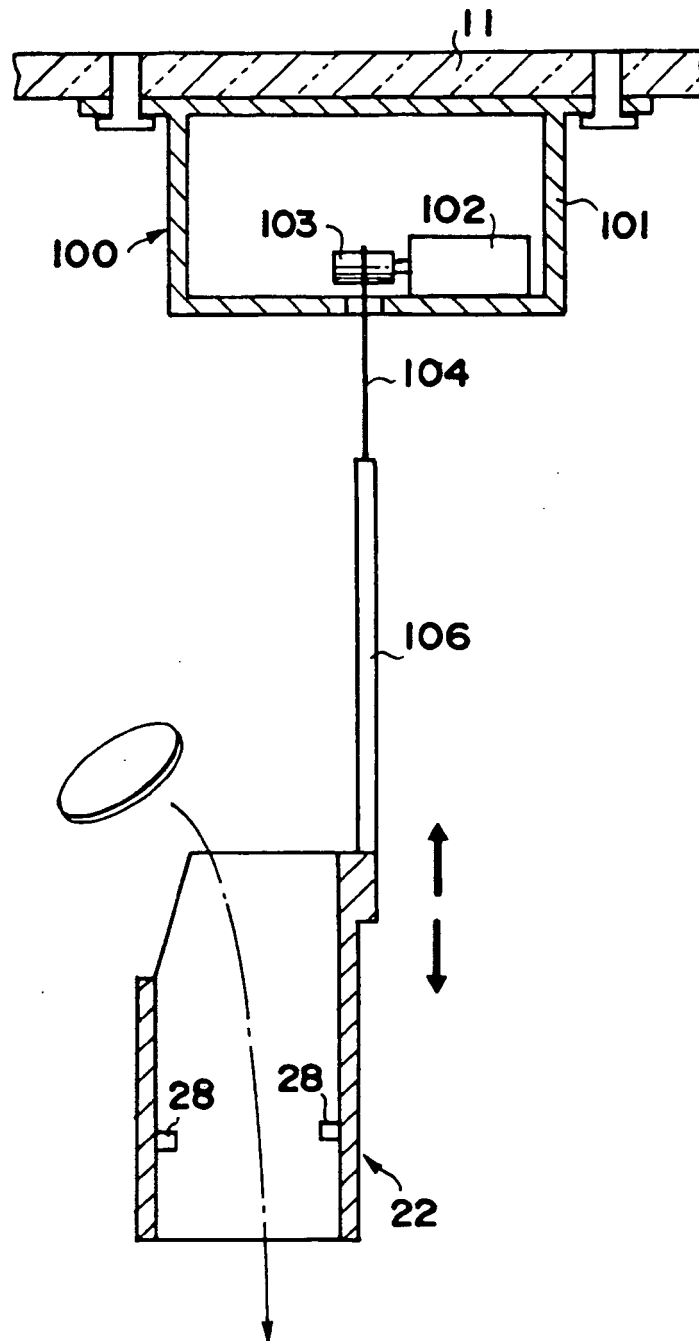


FIG. 4

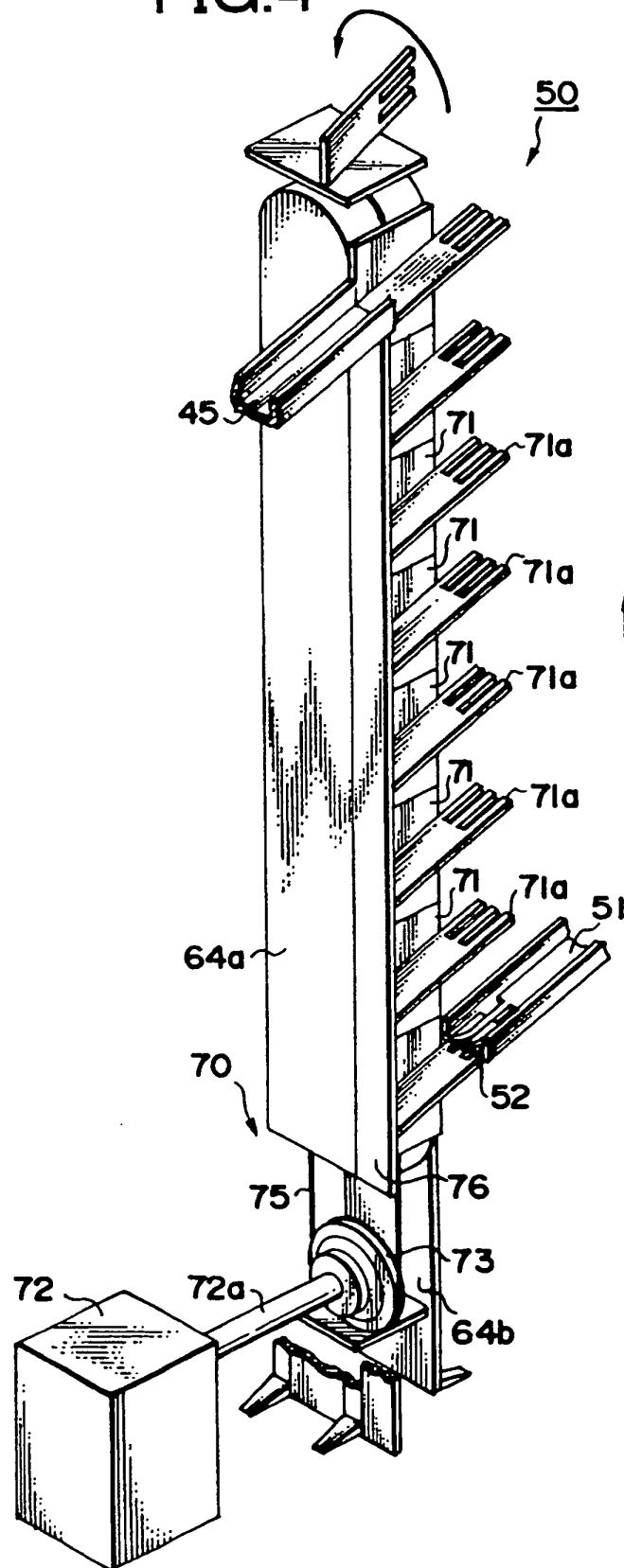


FIG.5A

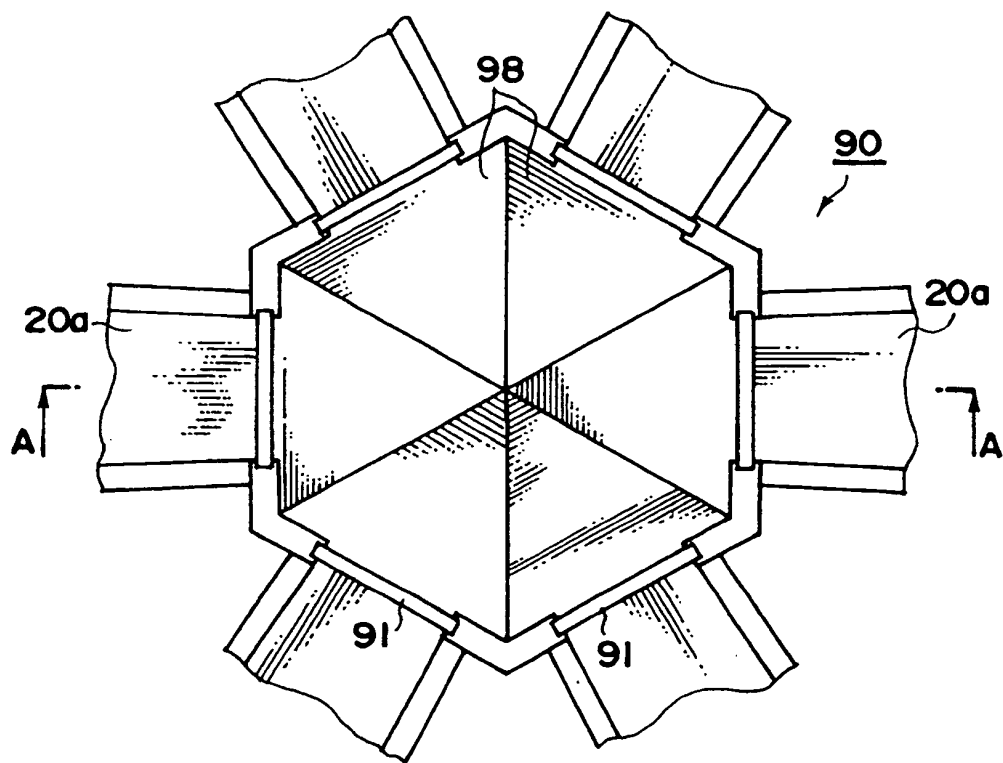


FIG.5B

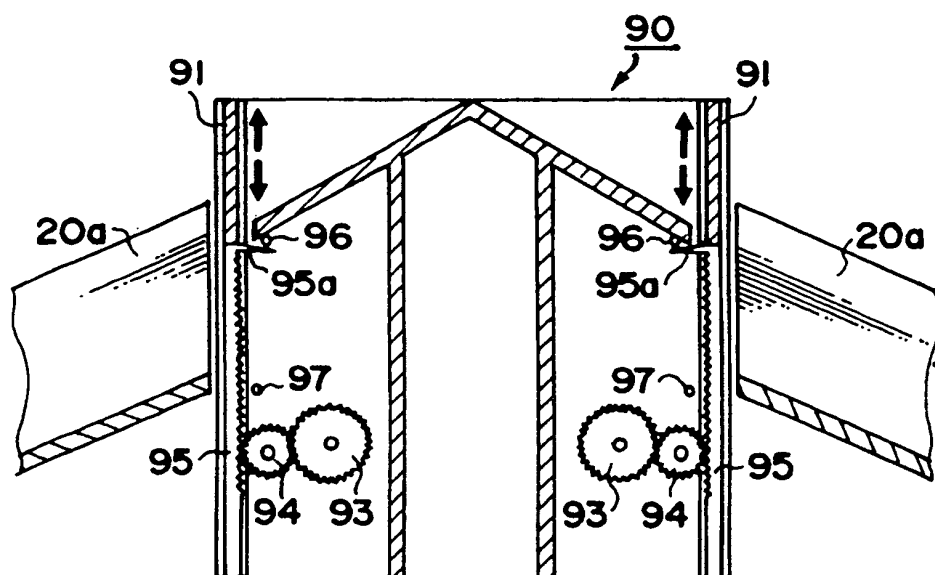


FIG.6

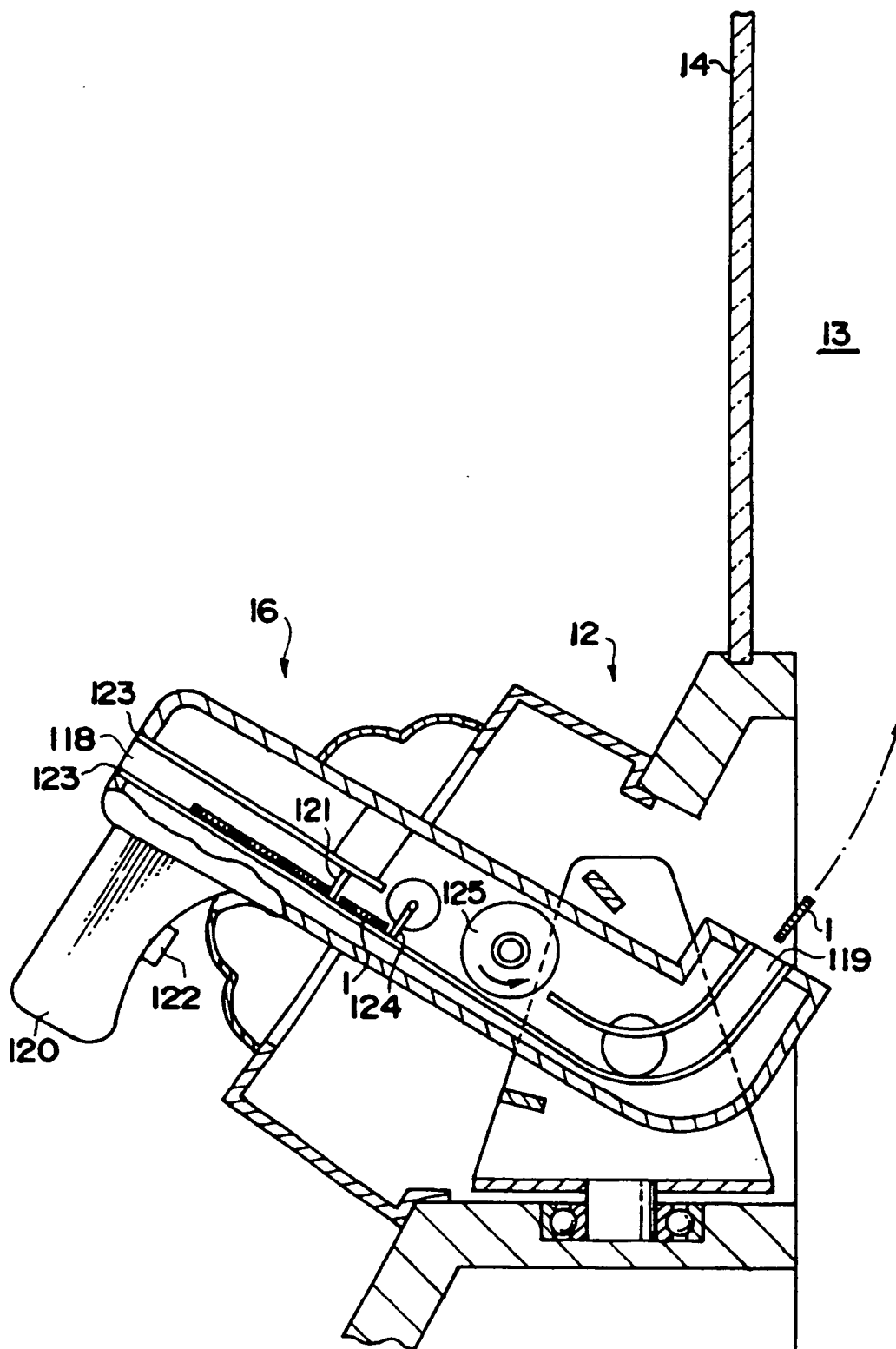


FIG. 7

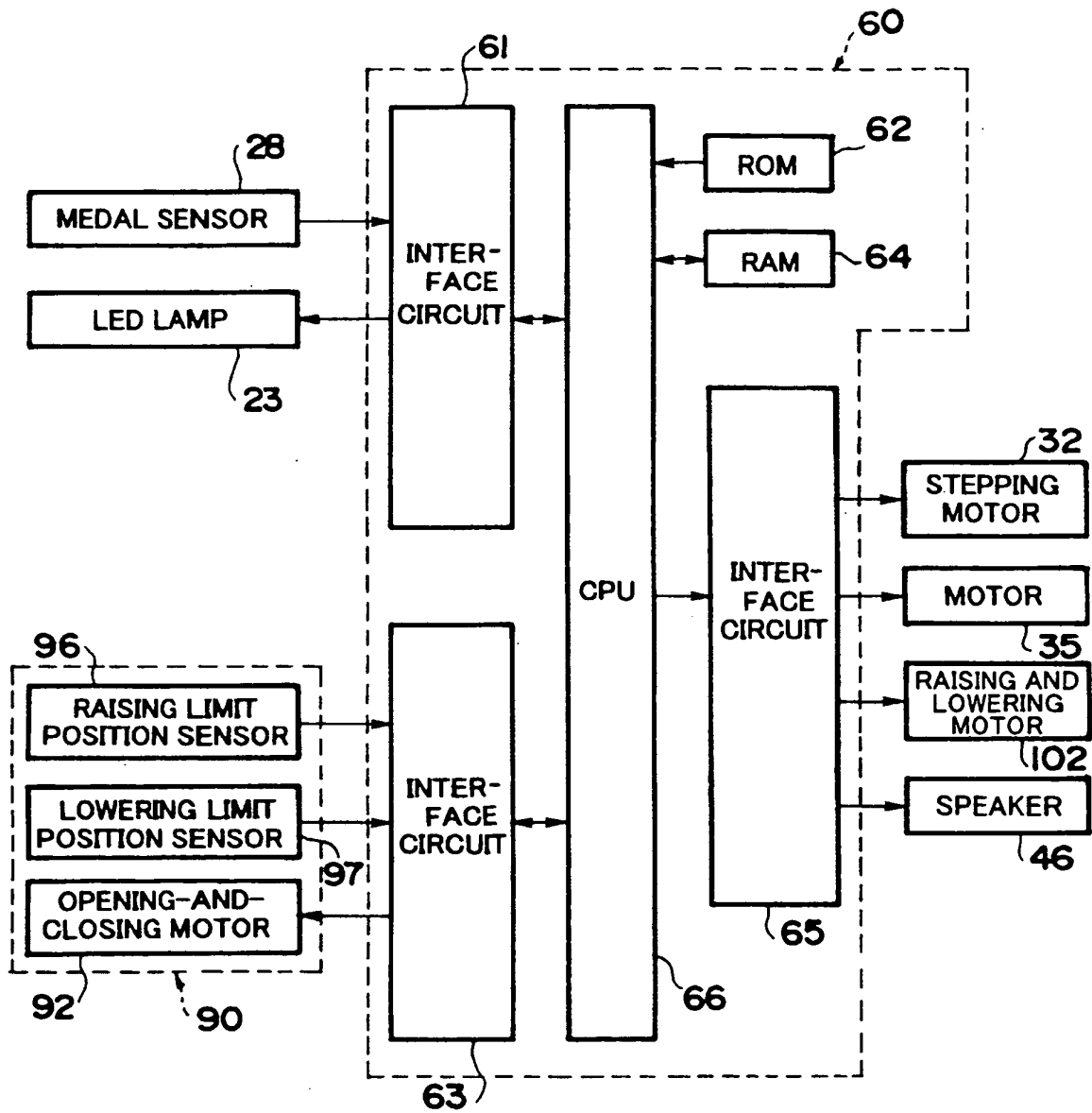


FIG.8

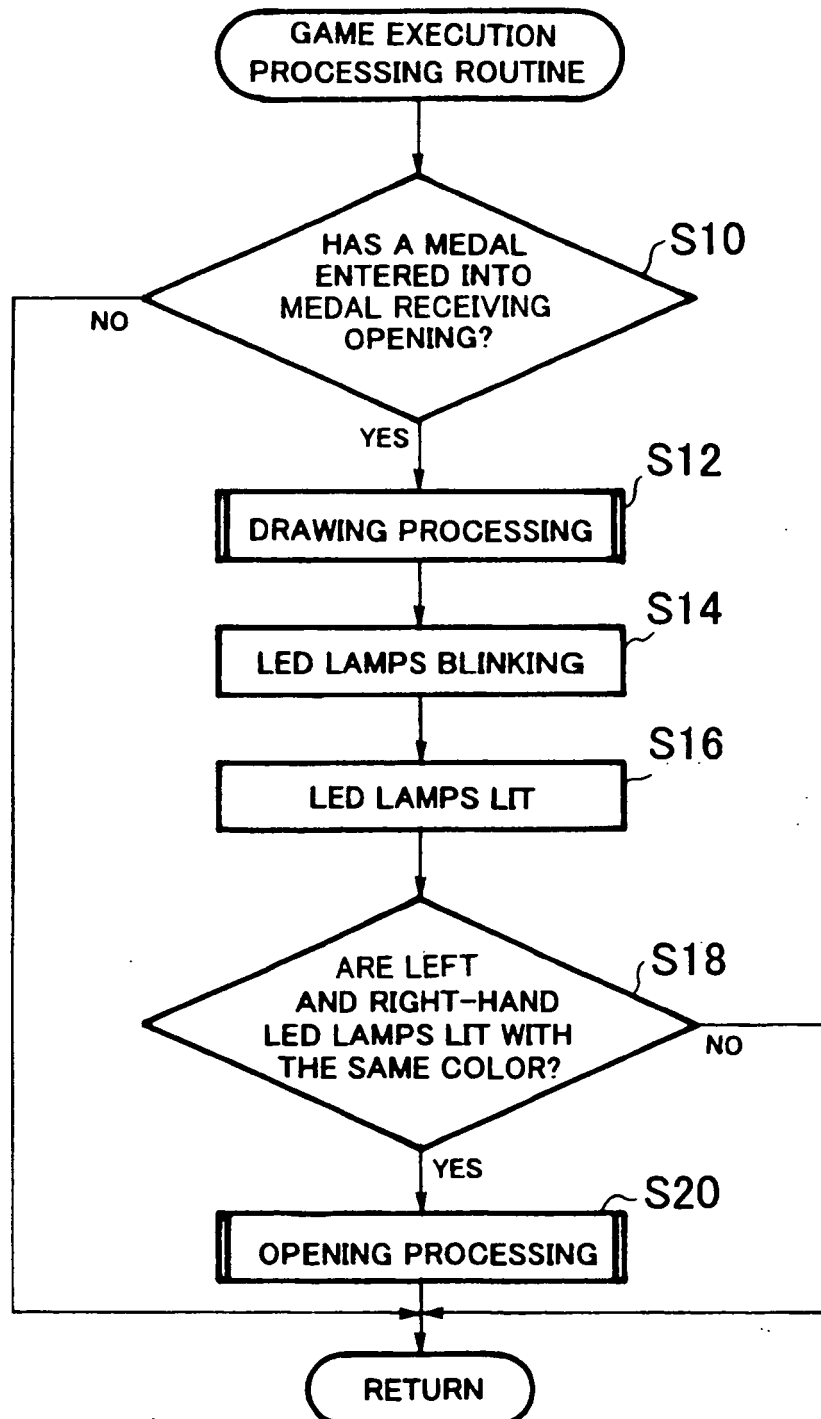
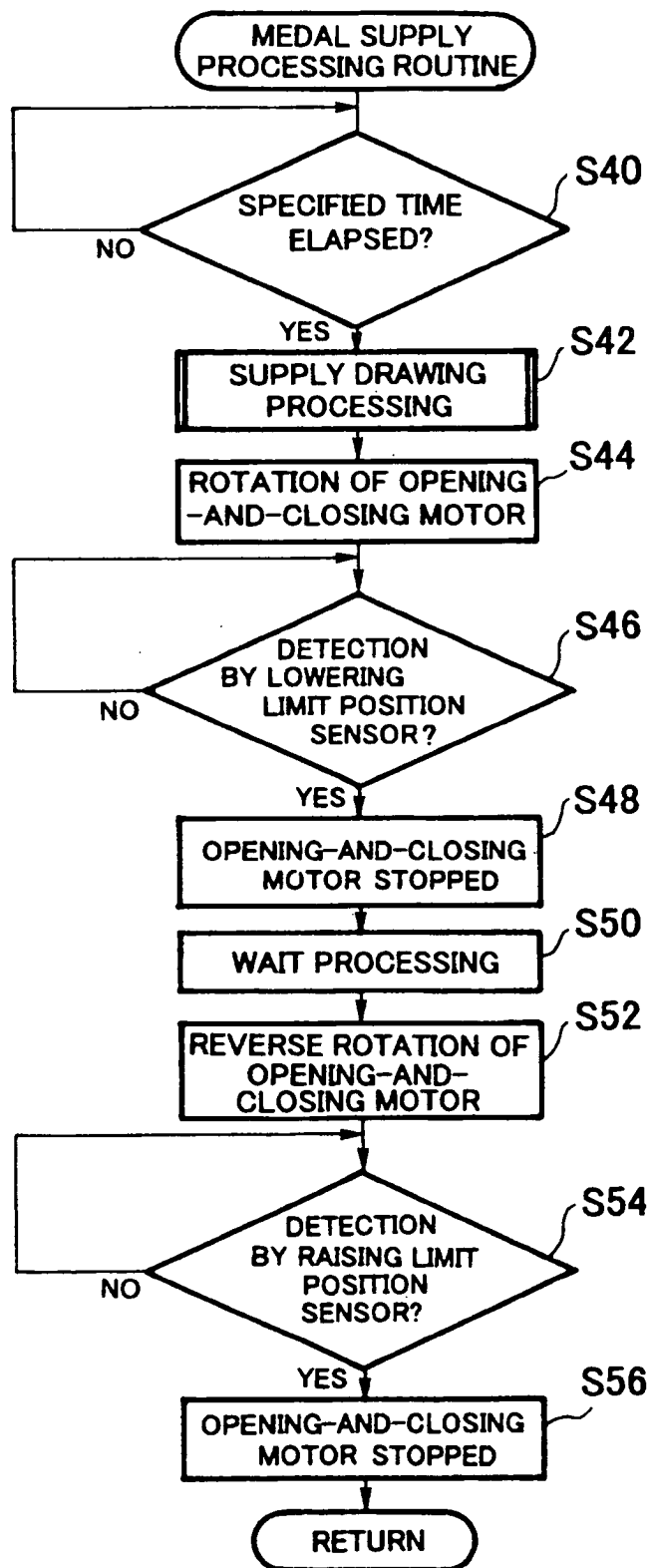


FIG. 9

DRAWING PROBABILITY TABLE (JACKPOT PROBABILITY : 1/32)	
RANDOM DRAWING VALUE	MEDAL ACCUMULATING PART
0~15871	MISSED
15872~15935	20a
15936~15999	20b
16000~16063	20c
16064~16127	20d
16128~16159	20a, 20b
16160~16191	20b, 20c
16192~16223	20c, 20d
16224~16255	20a, 20d
16256~16283	20a, 20b, 20c
16284~16311	20a, 20b, 20d
16312~16339	20a, 20c, 20d
16340~16367	20b, 20c, 20d
16368~16383	20a, 20b, 20c, 20d

FIG. 10



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 2001310077 A [0002]
- US 6206370 B [0005]