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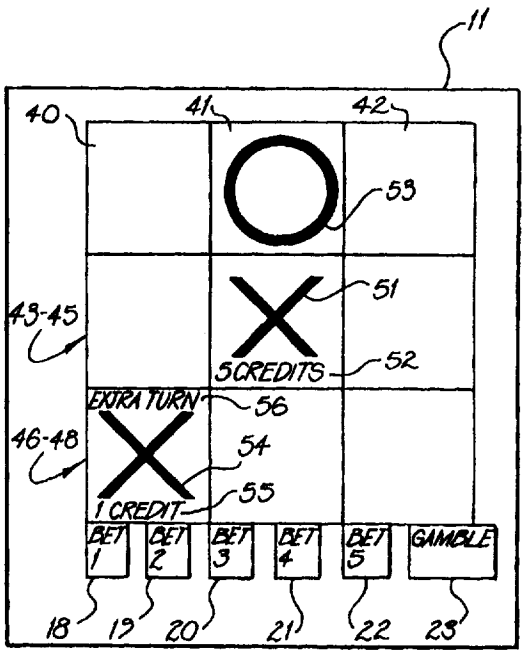
(54) Title: SLOT MACHINE GAME - HIDDEN PRIZE

(57) Abstract

A slot machine includes a prize display (12), a coin entry slot (13), a payout tray (14) and internally mounted game control processor circuits. The game display means (11) comprises a video display screen (11) controlled to display a game image divided into a matrix of elements or player selectable zones. The video screen has an array of touch sensitive areas located on its display surface with one such area associated with each matrix element (40-48). The player selects one of the matrix elements (e.g. 44) by touching the screen within the area of the respective element to be selected, thereby causing the image in the element to change to reveal the associated prize value. Additional player controls are implemented by displaying images (18, 19, 20, 21, 22, 23), corresponding to controls on the screen such that when the control images are touched, the associated function is caused to be performed. In the event that the player wins the game, by aligning three of the selected zones in a straight line, the machine will pay him a prize equivalent to the sum of the prizes (e.g. 51 and 55 in the figure) displayed in the zones selected by the player multiplied by the number of units bet, if appropriate.



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SLOT MACHINE GAME - HIDDEN PRIZE

Introduction

The present invention relates to gaming machines of the type generally referred to as slot machines, fruit machines or poker machines, and in particular the invention provides a new game played on such a machine.

Players who regularly play gaming machines quickly tire of particular games and therefore it is necessary for manufacturers of these machines to come up with innovative games or game features that add interest to the games provided on such machines in order to keep the players amused and therefore willing to continue playing the game.

Description of the Prior Art

Gaming or poker machines have been well known in the state of New South Wales for many years and have more recently gained considerable popularity throughout Australia, with quite substantial amounts of money wagered on these machines. There is a growing tendency for State governments to legalise the use of gaming machines by licensing operators, with resulting revenue gains through licence fees and taxation of monies invested. The licensed operation of gaming machines is the subject of State legislation and regulation. This regulation almost always dictates a minimum percentage payout for a gaming machine. For example, a minimum of 85% of monies invested must be returned as winnings, and manufacturers of gaming machines therefore must design their machines around these regulatory controls.

With the growth that has occurred in the gaming machine market there is intense competition between manufacturers to supply the various existing and new venues. When selecting a supplier of gaming machines, the operator of a venue will often pay close attention to the popularity of various games with their patrons.

Therefore, gaming machine manufacturers are keen to devise games which are popular with players, as a mechanism for improving sales.

In particular, manufacturers regularly devise new games which have not previously been seen on slot machines in order to stimulate renewal of player interest.

Summary of the Invention

A slot machine including display means arranged to display a game being played on the machine, game initiating means to initiate a game on the

machine and game control means responsive to the initiating means to control the playing of the game, characterised in that the display means is arranged to display:

a game image having a plurality of player selectable zones, the control means including player zone selection means, prizes being associated with at least one of the zones and the control means being arranged to display an indica in a zone selected by a player, the indica being representative of the prize, if any, associated with that zone, the game requiring the player to select one or more zones to produce a game result and in the event of the game result being a winning result, the machine awarding the prizes indicated by the indica revealed in the zones selected by the player.

The game image may either be a static image or a dynamic (ie video) image, depending upon the particular embodiment of the invention.

In one embodiment, clues are provided to assist the player in determining the probability of a particular zone being the winning zone.

Some embodiments of the invention will include some zones which have a zero prize value such that if randomly selected by the controller and selected by the player, no prize is awarded to the player.

Preferably, the zone selection means includes touch sensors associated with the display means such that touching the display means within the area of one of the player selectable zones causes the respective zone to be selected. Preferably, the display means is a video screen or LCD panel and touch sensors are touch switches associated with zones of the display.

In preferred embodiments, the game is an interactive game where the player plays against the machine, or possibly another player. In one embodiment the game is tic-tac-toe and the player accumulates prizes for each square selected and wins the prizes by winning the game. Other embodiments may play games such as battleship or "concentration" where the player is required to match hidden images of prize values to win.

Brief Description of the Drawings

Embodiments of the present invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 illustrates a touch screen slot machine incorporating the present invention;

Figure 2 illustrates a screen layout for an embodiment of the invention;

Figure 3 illustrates the screen layout of Figure 2 after a winning zone has been selected;

Figure 4 illustrates the screen layout of Figure 2 after a non-winning zone has been selected;

Figure 5 is a flow chart showing operation of the game described with reference to Figure 2; and

Figure 6 is a schematic diagram of a slot machine control circuit.

Detailed Description of the Preferred Embodiments

In the following detailed description, the methodology of the embodiments will be described and it is to be understood that it is within the capabilities of the non-inventive worker in the art to introduce the methodology on any standard microprocessor based gaming machine by means of appropriate programming.

Referring to Figure 1, the illustrated embodiment of the invention is housed in a conventional slot machine cabinet 10 including a prize display 12, a coin entry slot 13, a payout tray 14 and internally mounted game control processor circuits (refer to Figure 6).

Preferably, the game display means 11 comprises a video display screen 11 controlled to display a game image divided into a matrix of elements or player selectable zones. The video screen is preferably of the touch sensitive variety, having an array of touch sensitive areas located on its display surface with one such area associated with each matrix element 40-48 (refer to Figure 2). The player selects one of the matrix elements (eg. 44) by touching the screen within the area of the respective element to be selected, thereby causing the image in the element to change to reveal the associated prize value (refer to 44 in Figure 2). Additional player controls may be implemented by displaying images 18, 19, 20, 21, 22, 23, corresponding to controls on the screen such that when the control images are touched, the associated function is caused to be performed.

Referring to Figure 2, a screen layout is illustrated for a first embodiment of the invention. In this embodiment, one such player control is a gamble button 23, which when touched causes a game to be initiated. Additionally, buttons 18, 19, 20, 21 and 22 enable bets of 1-5 credits to be placed on each game. The player first touches the gamble button 23 which

causes the game to commence and an image into a matrix of image elements 40-48 to be displayed. In the displayed embodiment, the game is tic-tac-toe.

Once the image is displayed, the player may select his bet which will be deducted from his available credit (and will cause the prize to be multiplied by the number of bet units selected). In some embodiments bet selection may not be provided and all bets will be of one unit.

After the player has selected his bet using buttons 18-22 he may select an image element by touching the appropriate screen position (eg. 44).

Referring to Figures 2, as the player selects an image element it is marked with a symbol 51 indicating it as a player square and the associated prize indica 52 is displayed (5 credits in the case of zone 44) to reveal a prize value.

The machine will then select an image element (53 in Figure 3) and then invite the player to select an element, until the game has been won by the player or the machine or the game has become unwinnable. In the event that the player wins the game, by aligning three of the selected zones in a straight line, the machine will pay him a prize equivalent to the sum of the prizes (eg 51 and 55 in Figure 4) displayed in the zones selected by the player multiplied by the number of units bet, if appropriate.

Games may also include additional twists such as hidden penalties or bonuses. For example, selecting a certain square might reveal a message (56 in Figure 4), to take an extra selection or alternatively to miss a turn, which would significantly effect the outcome of the game.

Referring to Figure 5, a flow diagram is illustrated to show the logic of a control program which controls the operation of the game. From this diagram it will noted that, after starting, the machine awaits the touching of the gamble button 23 to commence the game. The control program then causes the display of an image comprising a matrix of image elements and randomly associates prizes with each displayed indicia. The game image may be the same for each game or may be a variation on the same theme with different backgrounds and orientations of characters etc. In the case of tic-tac-toe, each game would be the same, excepting that the machine might randomly award the first move either to itself or the player.

The program to implement the sequence of figure 5 runs on a standard gaming machine control processor 31 as illustrated schematically in Figure 6. This processor forms part of a controller 30 which drives the

display screen 11 and receives touch input signals from touch sensors 32 as well as receiving coin input pulses from a coin chute mechanism 33 and driving a coin payout mechanism 34.

It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

CLAIMS:

1. A slot machine includes display means arranged to display a game being played on the machine, game initiating means to initiate a game on the machine and game control means responsive to the initiating means to control the playing of the game, characterised in that the display means is arranged to display a game image having a plurality of player selectable zones, the control means including player zone selection means, prizes being associated with at least one of the zones and the control means being arranged to display an indica in a zone selected by a player, the indica being representative of the prize, if any, associated with that zone, the game requiring the player to select one or more zones to produce a game result and in the event of the game result being a winning result, the machine awarding the prizes indicated by the indica revealed in the zones selected by the player.

2. The slot machine of claim 1 wherein the game image is a static image.

3. The slot machine of claim 1 wherein the game image is a dynamic image.

4. The slot machine of claim 1, 2, or 3, wherein clues are provided to assist the player in determining the probability of a particular zone being the winning zone.

5. The slot machine as claimed in any one of claims 1 to 4, wherein the game includes one or more zones which have a zero prize value such that if randomly selected by the controller and selected by the player, no prize is awarded to the player.

6. The slot machine as claimed in any one of claims 1 to 5, wherein the zone selection means includes touch sensors associated with the display means such that touching the display means within the area of one of the player selectable zones causes the respective zone to be selected.

7. The slot machine as claimed in any one of claims 1 to 6, wherein the display means is a video screen.

8. The slot machine as claimed in any one of claims 1 to 7, wherein the display means is an LCD panel.

9. The slot machine as claimed in any one of claims 1 to 8, wherein the zone selection means is a set of touch switches associated with zones of the display.

10. The slot machine as claimed in any one of claims 1 to 9, wherein the game is an interactive game where the player plays against the machine.

11. The slot machine as claimed in any one of claims 1 to 9, wherein the game is an interactive game where the player plays against another player.

12. The slot machine as claimed in any one of claims 10 or 11, wherein the game is tic-tac-toe and the player accumulates prizes for each square selected and wins the prizes by winning the game.

13. The slot machine as claimed in any one of claims 10 or 11, wherein the game is battleship where the player is required to find objects (ships) hidden by his opponent to win.

14. The slot machine as claimed in any one of claims 10 or 11, wherein the game is "concentration" where the player is required to match hidden images of prize values to win.

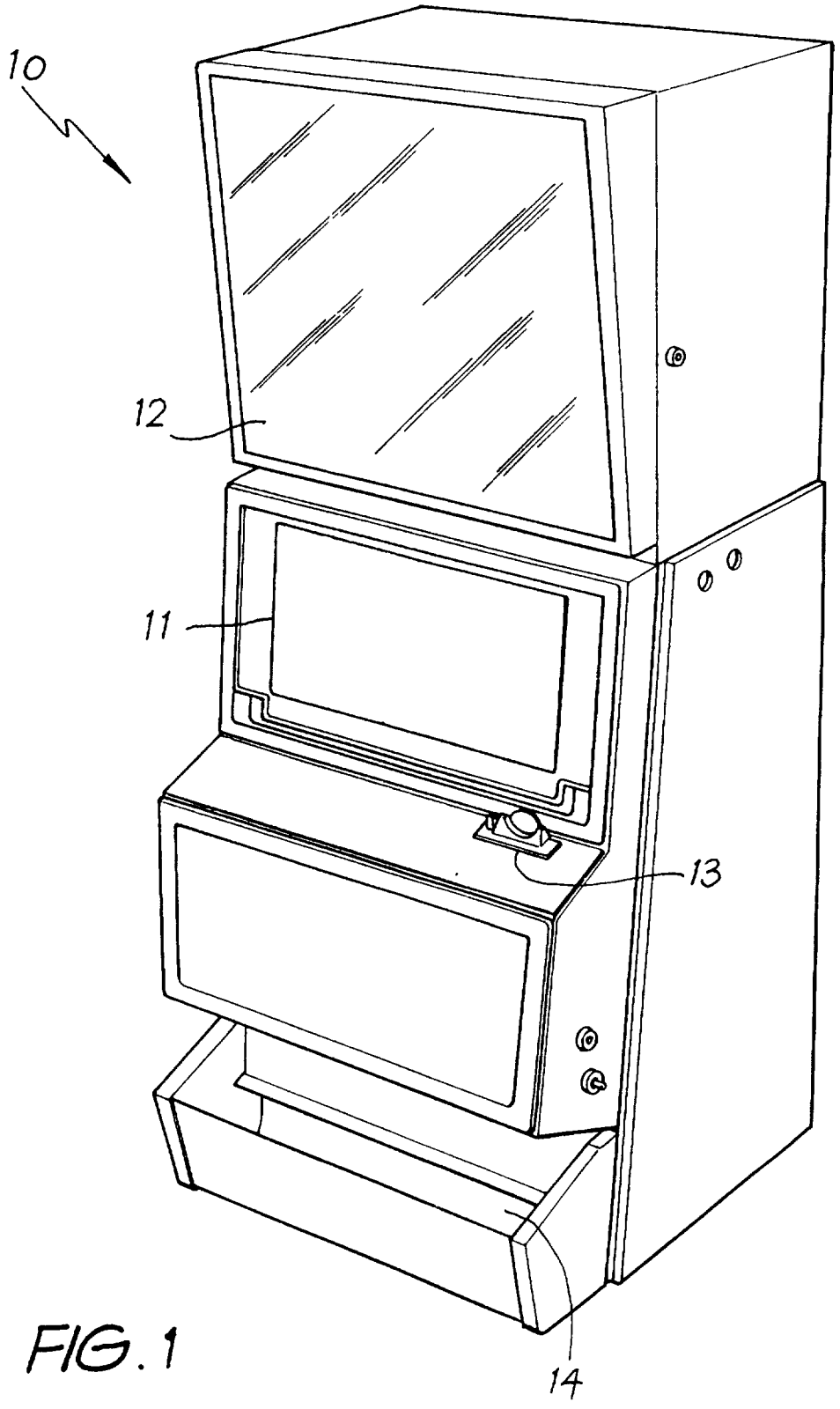
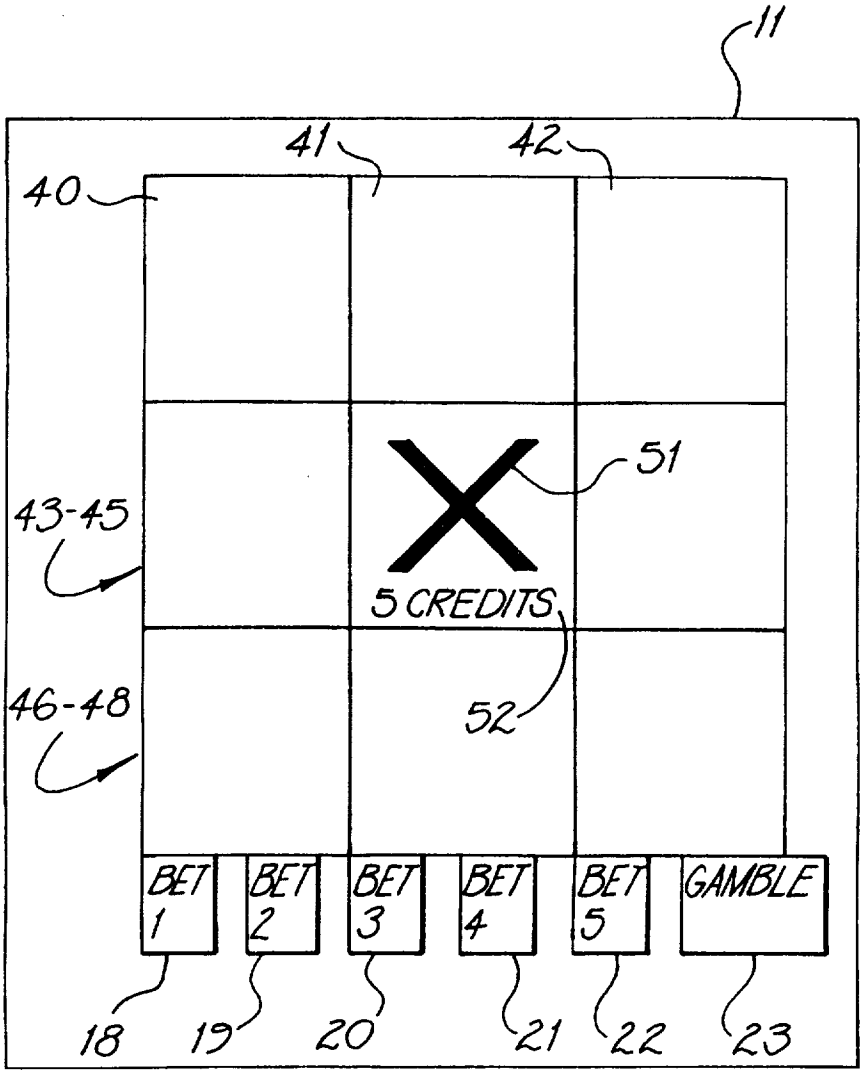


FIG. 1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BET 5
GAMBLE
18
19
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23

FIG. 2

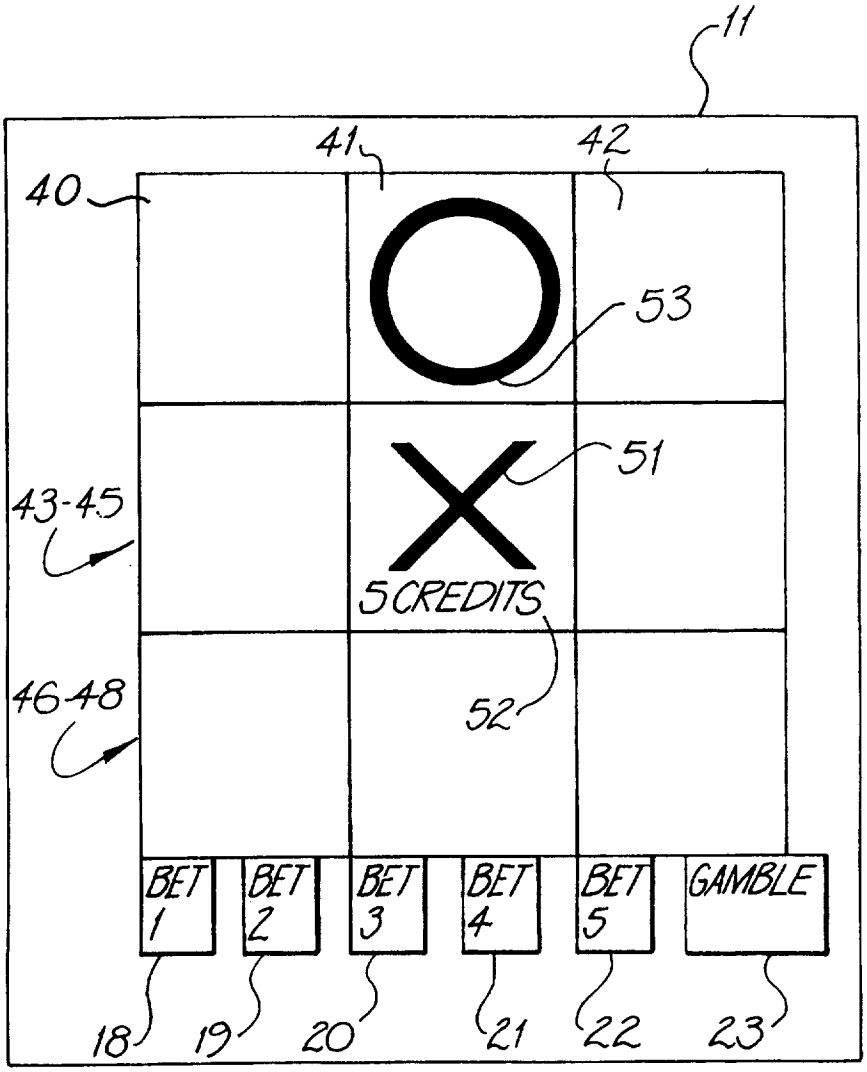
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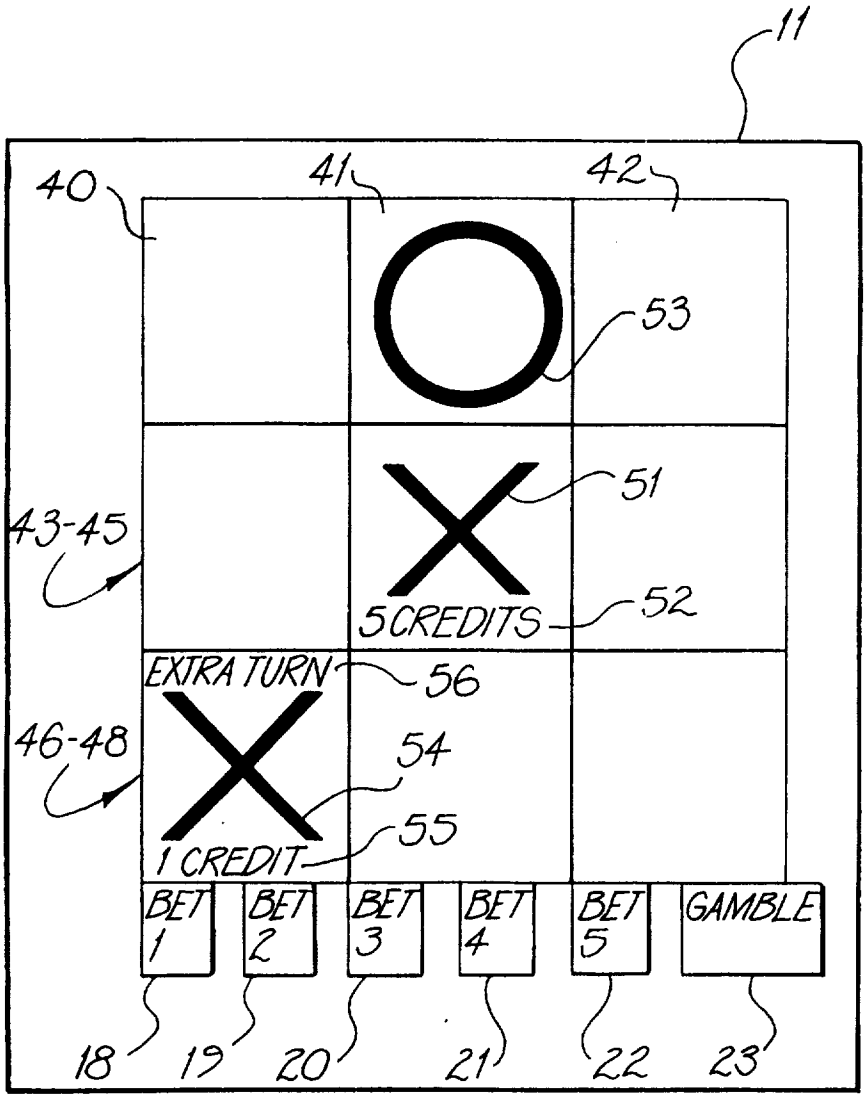
FIG. 3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46-48
54
55
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BET 2
BET 3
BET 4
BET 5
GAMBLE
18
19
20
21
22
23

FIG. 4

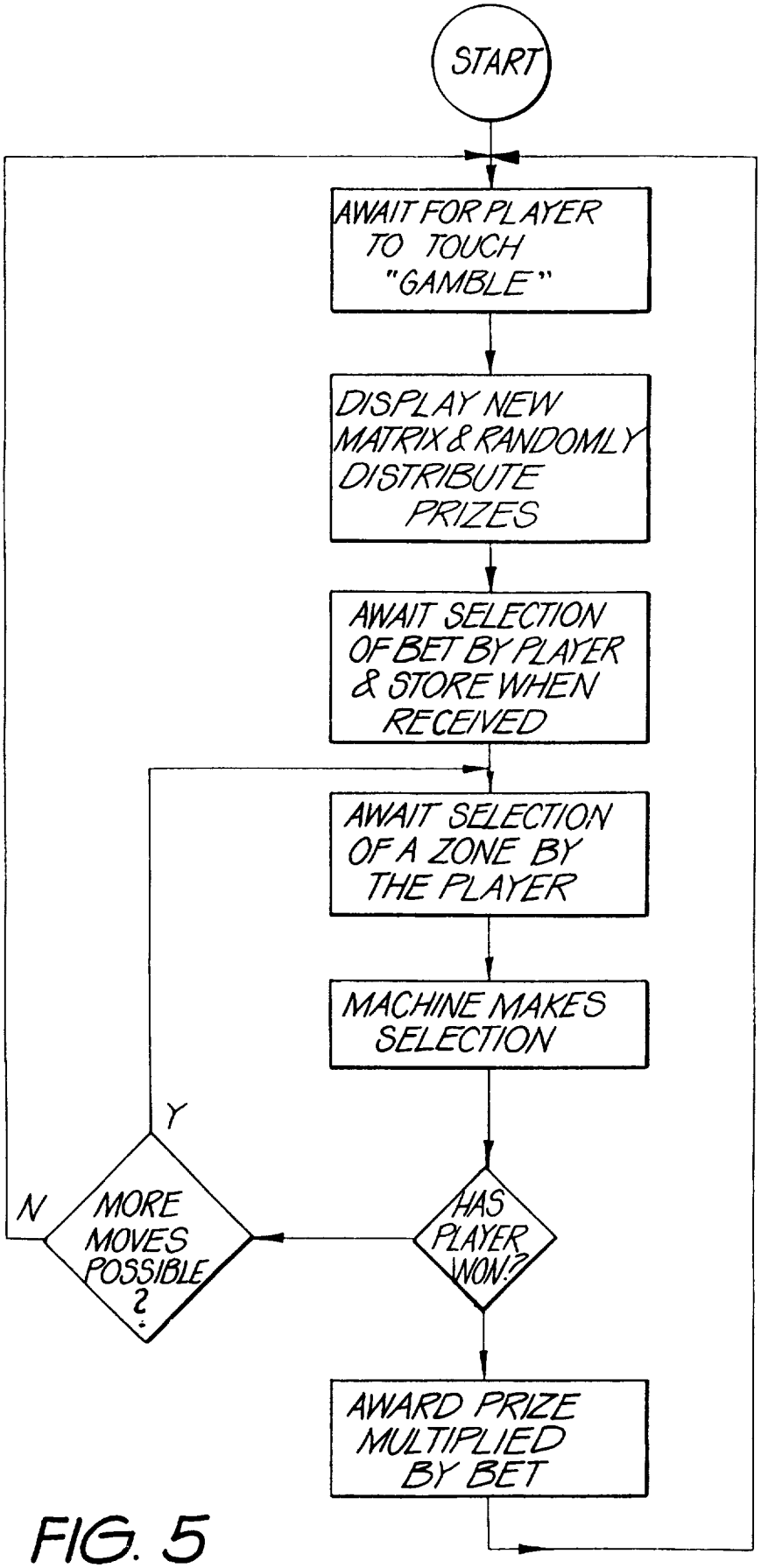
START
AWAIT FOR PLAYER TO TOUCH "GAMBLE"
DISPLAY NEW MATRIX & RANDOMLY DISTRIBUTE PRIZES
AWAIT SELECTION OF BET BY PLAYER & STORE WHEN RECEIVED
AWAIT SELECTION OF A ZONE BY THE PLAYER
MACHINE MAKES SELECTION
HAS PLAYER WON?
MORE MOVES POSSIBLE ?
Y
N
AWARD PRIZE MULTIPLIED BY BET

FIG. 5

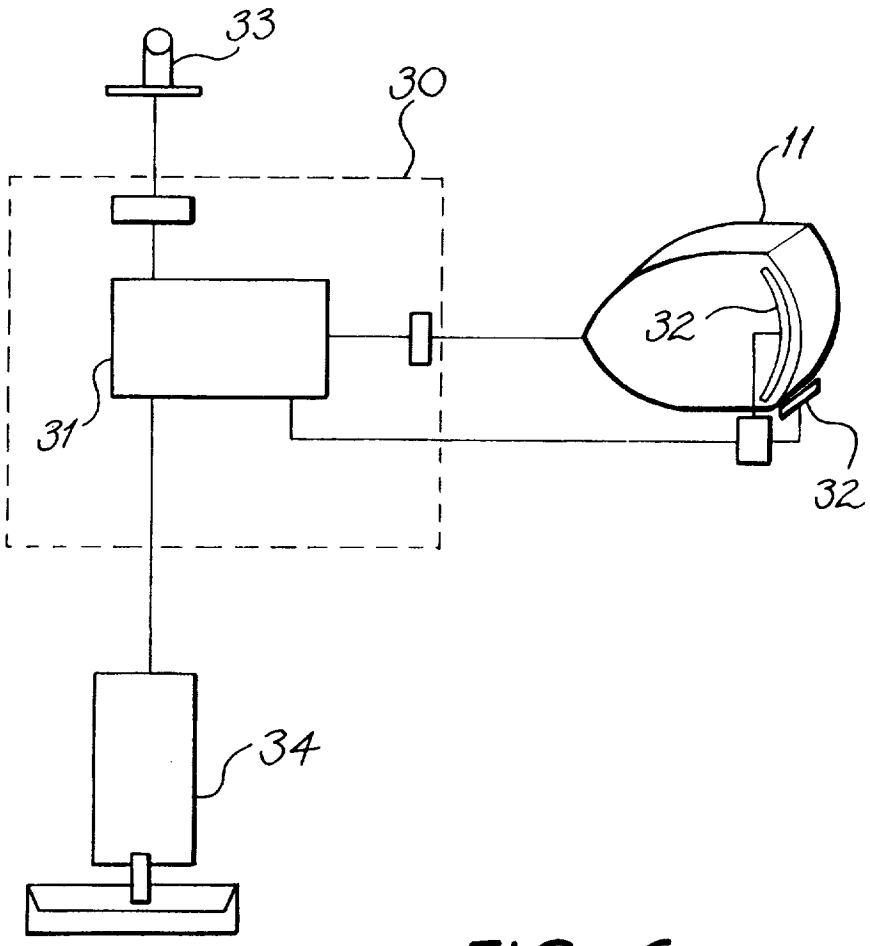

FIG. 6

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/AU 97/00554

A. CLASSIFICATION OF SUBJECT MATTER

Int Cl[6]: G07F 17/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC G07F 17/34

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
AU:IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPAT} zone selection, area selection,
JAPIO} region selection, touch.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB, 2296360 A (JPM INTERNATIONAL LTD) 26 June 1996	
A	GB, 2251112 A (BARCREST LIMITED) 24 June 1992	
A	GB, 2137392 A (JPM (AUTOMATIC MACHINES) LTD. (UNITED KINGDOM) 3 October 1984	

[X] Further documents are listed in the continuation of Box C

[X] See patent family annex

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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INTERNATIONAL SEARCH REPORT

International Application No.
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C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB, 2084371 A(BALLY MANUFACTURING CORPORATION) 7 April 1982	
A	GB, 2065948 A (GUNTER WULFF-APPARATEBAU GmbH) 1 July 1981	
A	GB, 1553117 A (GLENDEARG RESEARCH LTD) 19 September 1979	

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No.
PCT/AU 97/00554

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GB	2296360	GB	9425638	GB	9526073		
GB	2251112	NL	9101675				
GB	2084371	AU	75789/81	DK	4243/81	EP	50419
GB	2065948	DE	2952002	NL	8006886		

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