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(54) **Entertainment machines**

(57) An entertainment machine (1) operable to play a game of a predetermined minimum duration, the machine having a plurality of reels (8) with a variety of symbols about their peripheries which rotate after a game credit has been staked and come to rest so that each reel (8) shows one symbol on a central horizontal win line, the resultant display of symbols is assessed by a control unit and a win indication produced in the event that a predetermined combination of the displayed symbols is of a predetermined winning nature, immediately after the win has been assessed the reels (8) are automatically rotated again within the same game without any further stake being debited to once again come to rest to produce a fresh display of symbols and are again win-assessed.

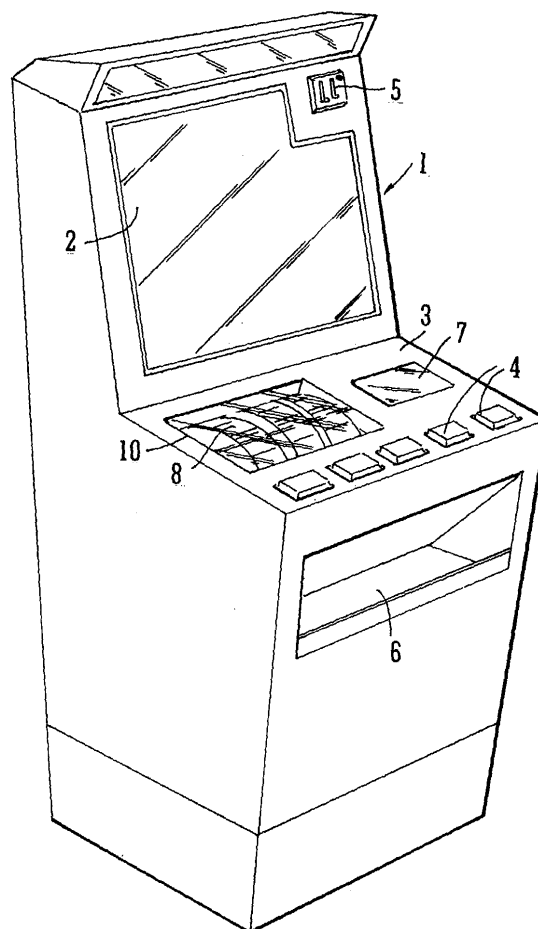


FIG. 1

Description

[0001] This invention relates to coin-operated player-operable entertainment machines of the kind having a main display device which in play of a game operates to display a selected combination of symbols.

[0002] As used herein the term coin is intended also to cover notes, tokens, charge or credit cards or any other means of supplying credit or monetary value.

[0003] Entertainment machines of the above kind which are gaming or amusement machines, such as 'fruit machines' or 'poker machines' or 'slot machines' typically have three or four reels with symbols around their peripheries. In play of a game, after game credit has been staked the reels rotate behind a window and then come to rest each displaying one or more selected symbols through the window on one or more win lines. An award is made available to the player in the event that a predetermined winning combination of symbols is displayed on the (or one) win line.

[0004] To optimise earnings it is desirable for games to be completed quickly. However, there may be a minimum duration imposed by law, and in any case, if play ends too quickly the entertainment value may be reduced so as to discourage player interest.

[0005] An object of the present invention is to enable game play to be prolonged without necessarily unduly detracting from entertainment value or machine revenue.

[0006] According to the invention therefore there is provided a coin-operated player-operable entertainment machine having a main symbol display device, the machine being operable for play of a game, after actuation by a stake for that game, in which the main display device has a display procedure comprising a changing display of symbols followed by a static display of a selected combination of such symbols, and wherein said game has a predetermined minimum duration, characterised in that the main display device is arranged to provide multiple successive said display procedures in said predetermined minimum game duration.

[0007] With this arrangement, the player can be presented with a prolonged period of game play, determined by the predetermined minimum game duration, without undue detracting from entertainment value in so far as the game involves multiple operations of the main display device, rather than a single such operation.

[0008] Moreover, as a consequence of the increased activity taking place within the game a corresponding increase in the required stake value can be justified. Thus, despite prolongation of the game the stake revenue need not be unduly diminished.

[0009] By way of example, in the case where the predetermined minimum duration is 3 seconds the stake value can be set at 2 units thereby to provide a stake revenue comparable with that of a conventional machine with which game play involves a single display procedure of the main display device with game duration

averaging 1.5 seconds for a stake value of 1 unit.

[0010] Game play may involve two successive display procedures. However, if desired there may be more than two such procedures.

[0011] Provision may be made for selection of the number of display procedures under the control of the machine and/or under the control of the player on any suitable basis. For example, provision may be made for the player to increase the game stake value thereby to effect a corresponding increase in number of display procedures.

[0012] Game play may also include one or more other features, such as operation of player controls, such as 'nudge' or 'hold' buttons to seek to influence symbol selection and/or such as transfer to supplementary play features such as a supplementary feature game, a gamble play or the like. Duration of play of any such features may be incorporated in normal game-play duration or may act to prolong such duration.

[0013] Play preferably progresses automatically from each said display procedure to the next successive such procedure. This may occur after a random or machine-controlled period of time. It is however also possible to arrange for progression of play to be initiated by operation of a player control.

[0014] With regard to the predetermined minimum game duration, this may be achieved by automatic machine control of the duration of one or more of the said display procedures and/or of game play periods between or after such procedures.

[0015] The main display device may be of any suitable kind. In a particularly preferred embodiment it comprises a plurality of side-by-side rotatable symbol-bearing reels which may be actual mechanical reels or video-simulated such reels. The static combinations of symbols may be selected on any suitable random, pseudo random or other basis.

[0016] Most preferably the machine also includes a win assessment device which provides a win indication in the event that a selected symbol combination is of a predetermined winning nature. This may be applied separately in the same way to each display procedure e.g. so that wins can be repeated and accumulated. Alternatively, win assessment may be applied differently to different display procedures. In particular win assessment may be influenced by the overall outcomes of the respective display procedures such that for example accumulated wins for all procedures do not exceed a predetermined maximum game win. Thus, for example, where a maximum 'jackpot' win is attained in a first display procedure, the machine may prevent attainment of any further win in the (or each) subsequent procedure in the same game. In that case, subsequent display procedures may occur without possibility of any winning outcome, or may be omitted and substituted by another procedure, such as flashing lights and sounds, to signal the maximum win and also to take up any remaining part of the predetermined minimum duration.

[0017] A winning outcome may result in a coin payout being made available to the player, or any other suitable prize or award.

[0018] The invention will now be described further by way of example only and with reference to the accompanying drawings in which:-

Figure 1 is a diagrammatic front view of one form of a gaming machine according to the invention; and

Figure 2 is a diagrammatic block circuit diagram of the machine.

[0019] Referring to Figure 1 this shows a gaming machine having a housing 1 with upper and lower front panels 2, 3, operating buttons 4, a coin slot 5, a payout opening 6, and an alphanumeric digital display device 7.

[0020] Within the housing 1 there are say three reels 8 rotatably mounted about a common horizontal axis on respective stepper motors 9. Each reel 8 has a predetermined sequence of say 20 or 24 symbols selected from a plurality of different kinds of symbols marked at equally spaced positions around its periphery. The peripheries of the reels 8 can be viewed through a window 10 in the lower panel 3.

[0021] The stepper motors 9 are connected within the housing to a microprocessor based control unit 11 as also are a coin mechanism 12 a payout mechanism, the operating buttons 4 and the digital display device 7.

[0022] In use, the player inserts coins into the coin mechanism 12 through the coin slot 5 sufficient to generate credit for play of one or more games i.e. equal to, or a multiple of, a predetermined stake value (say 2 credits). Total credit value is indicated on the digital display 7.

[0023] The player now initiates play of a game by pressing a start button 4 and this causes the game stake value (e.g. 2 credits) to be debited from the total credit value shown on the display 7.

[0024] The stepper motors 9 are now actuated by the control unit 11 to cause the side-by-side reels 8 to rotate about their common horizontal axis so that the symbols on their peripheries are seen moving behind the window 10. The reels 8 then come to rest after different periods of time so that each reel 8 shows one symbol on a central horizontal win line and two further symbols respectively above and below this win line in the window 10.

[0025] The resulting static display of symbols is assessed by the control unit 11 and a win indication is produced in the event that a predetermined combination of the displayed symbols (e.g. on the win line) is of a predetermined winning nature. The static display is derived in correspondence with random selection of symbol data from sequences of such data stored in memory of the control unit 11, and win assessment is applied to such randomly selected data.

[0026] Immediately after their static display has been produced and win-assessed, the procedure described

is repeated automatically within the same game i.e. without requiring any action on behalf of the player and without causing any further stake value to be debited from the credited value shown on the digital display 7. Alternatively, the procedure may only be repeated after the player has pressed the start button 4. Either way, the reels 8 again rotate and come to rest to produce a fresh static display of symbols in the window 10 which is again win-assessed.

[0027] Game play may then terminate.

[0028] In the event that a win indication is produced at the end of the first symbol selection procedure a corresponding monetary award may be made available to the player and added to the accumulated credit value shown on the display 7.

[0029] In the event that a win indication is produced at the end of the second symbol selection procedure this may also result in crediting of a monetary award. However, this is done with reference to any award already credited due to the first symbol selection procedure whereby an award value for the second procedure may be reduced or eliminated if the total for the two procedures would be such as to exceed a predetermined maximum.

[0030] in the event that the result of the first procedure is a maximum jackpot award the second procedure may then be omitted and instead flashing lights and sounds may be actuated to signal to the player that a jackpot award has been attained.

[0031] Credited value shown on the display 7 can be paid out as coins to the player through the opening 6 by operation of a player control button 4.

[0032] With this arrangement, the stake value for play of a game results in two symbol selection procedures (i.e. two rotations of the reels 8), or in the case of a jackpot win: one rotation of the reels 8 followed by a procedure of flashing lights and sounds.

[0033] Accordingly the duration of game play can be prolonged whilst ensuring good entertainment value to the player. Thus, instead of a game involving only a single symbol selection procedure which conventionally may have an average duration of say 1.5 seconds, the game with the machine described above may have a duration of at least 3 seconds and during that game provides the player with two successive procedures.

[0034] With regard to the duration of game play, the reels 8 may be set in rotation simultaneously and then may be brought to rest in sequence, after successively longer periods of rotation from left to right. The periods of rotation may be determined randomly, or pseudo randomly as a variation on a predetermined period of time for each reel 8.

[0035] With the machine of the present embodiment a minimum overall period for the game is set at a predetermined level of say 3 seconds. This may be achieved in any suitable manner e.g. by ensuring that the last-to stop reel 8 only stops when the overall duration of rotation for each procedure has reached or ex-

ceeded say 1½ seconds. Other arrangements are also possible e.g. by controlling only the minimum duration of rotation in the second procedure, or by controlling duration of periods in the game between the two symbol section procedures, or after the second procedure or otherwise.

[0036] In so far as the game duration is prolonged from a conventional period of approximately 1½ seconds to an extended period of at least 3 seconds and the game play procedures are effectively doubled during that period, a doubling of the required game-play stake value from 1 credit to 2 credits is justified.

[0037] Accordingly, game play duration is increased from approximately 1½ to at least 3 seconds without necessarily detracting from machine revenue.

[0038] It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

Claims

1. A coin-operated player-operable entertainment machine having a main symbol display device, the machine being operable for play of a game, after actuation by a stake for that game, in which the main display device has a display procedure comprising a changing display of symbols followed by a static display of a selected combination of such symbols, and wherein said game has a predetermined minimum duration, **characterised in that** the main display device is arranged to provide multiple successive said display procedures in said predetermined minimum game duration.
2. A machine as claimed in claim 1, wherein game play involves two successive display procedures.
3. A machine as claimed in claim 1 or 2, comprising means to select the number of display procedures under the control of the machine and/or under the control of the player on any suitable basis.
4. A machine as claimed in claim 1, 2 or 3, wherein game play includes one or more other features, such as operation of player controls, such as 'nudge' or 'hold' buttons to seek to influence symbol selection and/or such as transfer to supplementary play features such as a supplementary feature game, a gamble play or the like.
5. A machine as claimed in claim 4, wherein duration of play of any such features is incorporated in normal game-play duration and/or acts to prolong such duration.
6. A machine as claimed in any one of the preceding claims, wherein play progresses automatically from each said display procedure to the next successive such procedure.
7. A machine as claimed in claim 6, wherein play progresses after a random or machine-controlled period of time.
8. A machine as claimed in claim 6, wherein play progresses by operation of a player control.
9. A machine as claimed in any one of the preceding claims, wherein the predetermined minimum game duration is achieved by automatic machine control of the duration of one or more of the said display procedures and/or of game play periods between or after such procedures.
10. A machine as claimed in any one of the preceding claims, wherein the main display device comprises a plurality of side-by-side rotatable symbol-bearing reels.
11. A machine as claimed in any one of the preceding claims, wherein the static combinations of symbols are selected on any suitable random, pseudo random or other basis.
12. A machine as claimed in any one of the preceding claims including a win assessment device which provides a win indication in the event that a selected symbol combination is of a predetermined winning nature.
13. A machine as claimed in claim 12, wherein win assessment is applied separately in the same way to each display procedure.
14. A machine as claimed in claim 12, wherein win assessment is applied differently to different display procedures.
15. A machine as claimed in claim 12, 13 or 14, wherein win assessment is influenced by the overall outcomes of the respective display procedures.
16. A machine as claimed in any one of claims 12 to 14, wherein a winning outcome results in a coin payout being made available to the player, or any other suitable prize award.

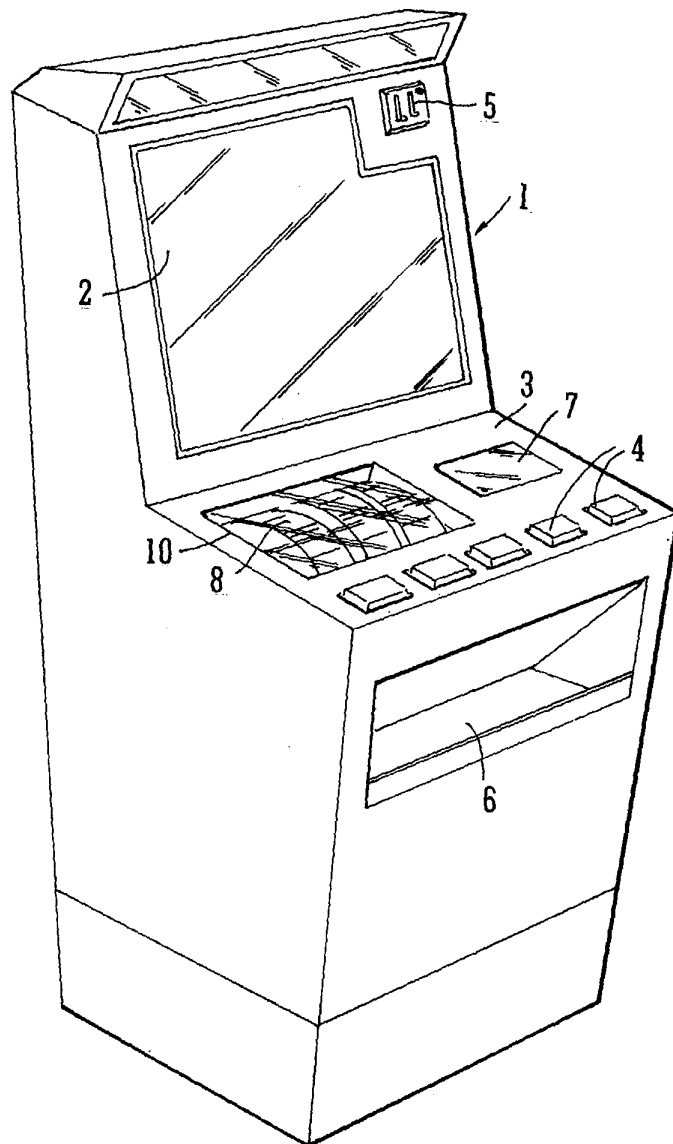


FIG. 1

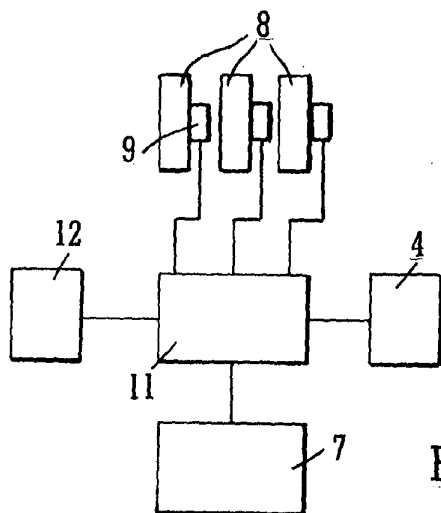


FIG. 2