(12) UK Patent Application (19) GB (11) 2 204 436 (13) A

(43) Application published 9 Nov 1988

(21) Application No 8802833

(22) Date of filing 8 Feb 1988

(30) Priority data
(31) 8705323   (32) 6 Mar 1987   (33) GB

(71) Applicant
Barcrest Limited

(Incorporated in United Kingdom)

Margaret Street, Ashton-under-Lyne, Lancashire, OL7 0QQ

(72) Inventor
John Laurence Wain

(74) Agent and/or Address for Service
M'Caw & Co
41-51 Royal Exchange, Cross Street, Manchester, M2 7BD

(51) INT CL⁴
G07F 17/34

(52) Domestic classification (Edition J):
G4V 118 AA
U1S 1174 G4V

(56) Documents cited
GB A 2191030   GB A 2183882   GB A 2181589
GB A 2180087   GB A 2152263

(58) Field of search
G4V
Selected US specifications from IPC sub-classes
G07F A63F

(54) **Entertainment machines**

(57) A coin-operated entertainment machine, such as a fruit machine, can be used to play a game resulting in the selection and display of a combination of symbols. A win indication is given in the event that a winning symbol combination is obtained. A jackpot display (18) is provided and the player has an opportunity of obtaining a jackpot win and a corresponding award. When a jackpot win is obtained the machine may operate to augment the displayed jackpot value and the corresponding amount awarded.
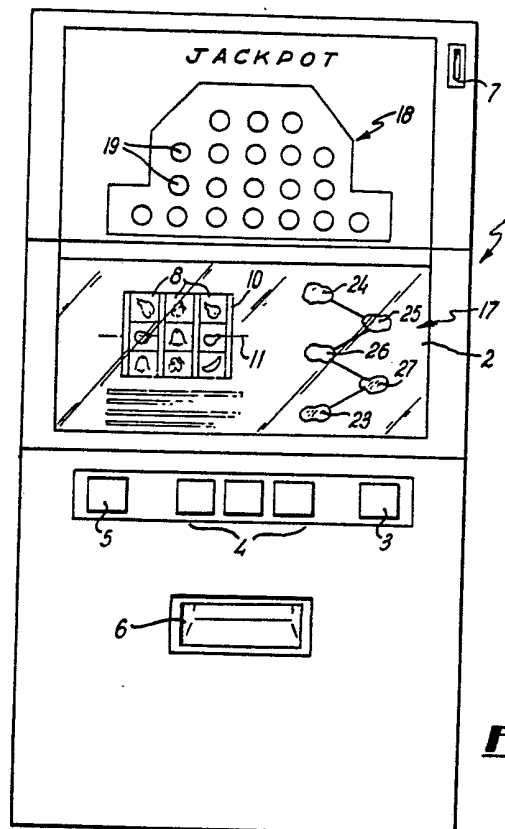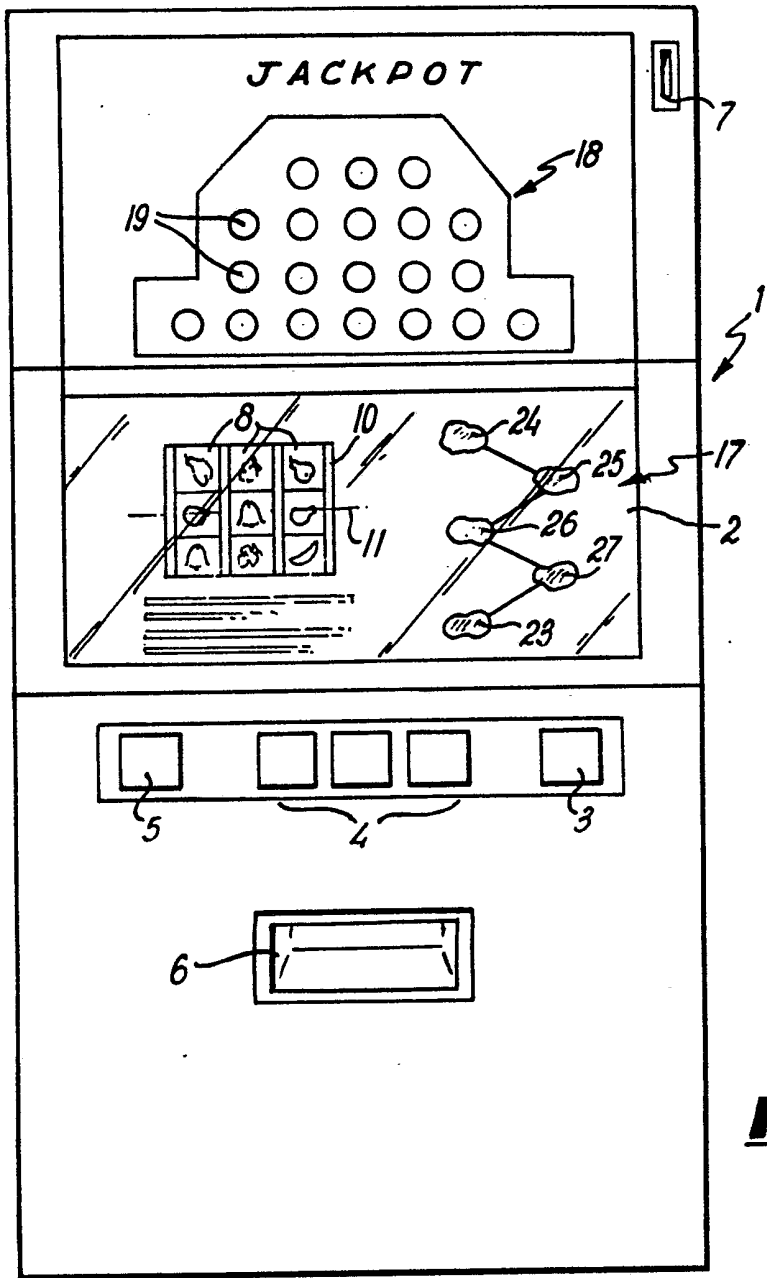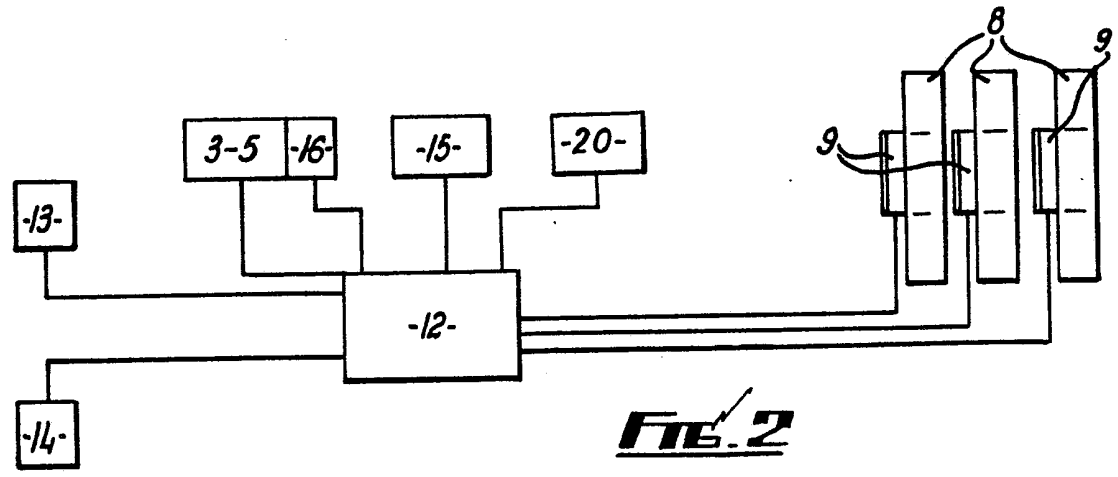

FIG.1

GB 2 204 436 A

JACKPOT

FIG.1

FIG.2

ENTERTAINMENT MACHINES

This invention relates to a coin-(or token-) operated entertainment machine of the kind which is operable to play games resulting in the

5. selection and display of combinations of symbols and with which a win indication is given in the event that a symbol combination of a predetermined winning nature is obtained. The invention is more particularly, although not exclusively, concerned with such a machine which is a fruit machine and with which the displayed symbols (typically

10. representations of fruit) are selected at random, for example, by rotation of reels.

With a view to promoting the entertainment value of fruit machines it is known to provide a jackpot feature. With traditional mechanical

15. fruit machines this customarily involves the provision of a mechanism which diverts occasional inserted coins into an exposed glass-fronted receptacle, the accumulated contents of the receptacle being discharged to the player on attaining a predetermined jackpot symbol combination. With modern electronic fruit machines it is known to provide a display

20. simulating this traditional jackpot feature comprising a number of representations of coins which are successively illuminated to simulate the filling of a receptacle, a payout determined by the number of illuminated coin representations being made, and illumination of the representations being correspondingly extinguished, when a jackpot

25. win is obtained. This modern jackpot feature is commonly linked to an auxiliary display with which different display regions, such as letters of a word or sections of a path or ladder, are illuminated in correspondence with selection of auuxiliary symbols such as numbers or letters ˉ accompanying (e.g. printed over) the main combination

30. symbols, the jackpot win being obtained for example when all letters of a word have been illuminated or illumination has progressed along a path or ladder to reach a jackpot indicator.

With this known jackpot arrangement there is the problem that, after payout of a jackpot prize, the feature may be of little interest to the player until sufficient games have been played to give rise to the accumulation of an appreciable prize value.

5.

An object of the present invention is to provide an entertainment machine having a jackpot feature and with which the above-described problem can be avoided or at lest appreciably reduced.

10. According to the invention therefore there is provided a coin- (or token-) operated entertainment machine which is operable to play games resulting in the selection and display of combinations of symbols and with which a win indication is given in the event that a symbol combination of a predetermined winning nature is obtained and wherein

15. at least one jackpot display is provided and the player has the opportunity in at least some games of achieving a jackpot win and thereby obtaining a prize award determined by an accumulated value shown on such jackpot display, characterised in that there is provided means for augmenting the displayed accumulated value and the corresp-

20. onding prize award when the player achieves the jackpot win.

With this arrangement it will be understood that following a jackpot win,player interest can be maintained since it can be ensured that an appreciable award is obtained even in cases where the displayed

25. jackpot award immediately prior to the win is of a low value.

The augmenting may be effected on a random or predetermined basis. In a preferred embodiment the prize award is augmented such that a predetermined maximum prize value is obtained irrespective

30. of the displayed value prior to the win. It is also possible to carry over a displayed jackpot award from one game to a next game which is already credited (or even to a next game which is not yet credited) without having to rely on the inducement of an increasing jackpot award to sustain player interest: the player knows that a substantial

award (preferably of a predetermined maximum value) is available irrespective of the actual displayed award. The actual jackpot display therefore performs the function of demonstrating in an attractive way the availability of a substantial jackpot award without having to do

5. this by actually making available an initial low level award.

There may be any suitable number of a separate or related jackpot displays as desired. The or each display may compromise simulated coin receptacles, numerical displays or any other suitable display or

10. combination of displays.

The arrangement may be such that the or each jackpot display is progressively "filled" during the course of a game on a regular predictable basis or at random or in response to selection of a pre-

15. determined symbol or combination of symbols as desired. Such filling may involve simulated movement, e.g. of a coin, into the jackpot display. When a jackpot win is achieved "filling" of the jackpot display may be completed e.g. by simulated movement of the requisite number of coins into the display.

20.

The jackpot prize value may be of a value of coins (or tokens) or may constitute one or more game features (such as fruit machine "hold" or "nudge" steps) or any other suitable award and the nature of the jackpot display will be of a corresponding format.

25.

Award of jackpot prize value may be made available in response to selection of a predetermined symbol combination. Alternatively the jackpot feature may be linked to an auxiliary display whereby it is necessary to reach a predetermined position on a ladder or path or

30. to illuminate a word or the like, by attaining successively appropriate auxiliary symbols accompanying the main symbol display, in order for a jackpot prize award to be made available. Alternatively or additionally the jackpot prize award may be made available on a random basis.

When made available the jackpot value may be awarded automatically. Alternatively it may be necessary for the player to take appropriate action, for example, by pressing a jackpot payout button and in this case an element ofskill or choice may be introduced in that, for example,
5. there may be an opportunity of "gambling" the award value.   The machine of the invention is preferably a fruit machine of the kind described above.

The invention will now be described further by way of example
10. only and with reference to the accompanying drawings in which:

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

15. Figure 1:   is a schematic circuit diagram of the machine.

The entertainment machine shown in the drawings is a fruit machine and comprises a floor-standing box-shaped housing 1 having a front wall which includes a screen-printed glass sheet 2 and, below this
20. sheet 2 a series of operating buttons including a start button 3, hold/nudge button 4, and a jackpot button 5.   The front wall also contains a payout opening 6 and a coin slot 7.

Within the housing there are three axially aligned reels 8 having,
25. say, 20 symbols (such as pictures of fruit) at regularly spaced positions around their peripheries.   The reels 8 are axially rotable and are drivably connected to respective stepper motors 9.   The reels 8 are arranged behind a window 10 defined by a printed region of the glass panel 2.   Each reel 8 can be arrested, by the respective stepper
30. motor 9, in any of 20 stopping positions in which one symbol is in precise registration with a horizontal win line 11 in the centre of the window 10 and two further symbols are visible above and below the win line 11.

The stepper motors 9 are connected to a microprocessor-based control unit 12. This control unit 12 is also connected to a coin mechanism 13. a payout mechanism 14, the buttons 3 - 5, various lamps 15 behind printed display regions of the panel and lamps 16

5. in the buttons 3 - 5.

The panel 2 bears printed matter additional to the window 10 including the following:-

10.   information relating to the playing the game including details of awards which can be achieved;

an auxiliary display constituting a ladder 17;
a jackpot disply 18 made up of printed display regions representing coins adding up to a maximum prize value (say twenty 10p coins)

15.

In use, when the machine is first switched on, a few of the coin representations 19 may be back-illuminated. This start-up procedure, as in the case with the subsequent game playing procedure

20. yet to be described, is controlled by the control unit 12 in accordance with a game programme stored in ROM memory addressed by the micro-processor of the unit.

When the player inserts coins into the coin mechanism 13 through

25. the coin slot 7 sufficient to generate credit for one or more games, the machine is actuated such that a game can now be played.
In conventional manner the player can press the start button 3 to cause the reels 8 to rotate and come to rest after different respective random periods of time so as to display a selected symbol combination

30. on the win line 11. At random at the start of some games the player is given the opportunity of arresting one or more reels 8 against rotation by pressing one or more hold/nudge buttons 4. At random at the end of some games the player is given the opportunity of stepping one or more reels 8 through one or more steps by pressing one or more hold/nudge buttons 4.

At the end of the game the combination of symbols on the win line 11 is known by the control unit 12 since the original starting position of the reels 8 and the number of steps through which each reel has rotated is known (because each stepper motor 9 is driven

5. by a counted number of impulses fed from the control unit 12). If the final combination is of a predetermined winning nature corresponding to a payout, the payout mechanism 14 is appropriate actuated.

One or more symbols on the periphery of each reel is overprinted

10. in conventional manner with a number. Initially (e.g. when credit is first accumulated by insertion of coins), the bottom "run" 23 of the ladder 17 is illuminated. At the end of a game the illumination moves up the ladder, in conventional manner, in correspondence with the value of any overprinted number which is on the win line 11.

15. On reaching the top of the ladder 17 the illumination returns to the bottom "run" 23. The top position 24 on the ladder corresponds to a jackpot feature. If the top position 24 is illuminated, the player can press the jackpot buttom 5 and a payout equal to a jackpot prize award is made. The value of the award is always the same i.e. the

20. maximum possible displayed value (£2.00) even if the actual displayed value immediately before achieving the win is less than the maximum (e.g. it may correspond to only say 30p or 40p represented by 3 or 4 illuminated regions 19). However, before the payout of the award is made an augmenting device 20 is actuated and this causes

25. the jackpot display 18 to fillup to the maximum level by successive illumination of those regions 19 which are not already illuminated. The successive illumination may simulate coins falling into the jackpot whereby on uppermost region 19 is first illuminated and then this is extinguished and in its place the next lowest region 19 is illuminated

30. and so on. The device 20 which in practice may form part of the game programme may be actuated automatically when the jackpot win is achieved or when the button 5 is pressed.

At appropriate occasions, e.g. at random or at the start or end of each game, the contents of the display 18 may be increased. On each such occasion there may be a change representing dropping of one or more coins into the display 18.

5.

At the end of the game not resulting in a jackpot win the distribution of coins in the display 18 may be maintained for the next game, even if there is no credit remaining for the playing of the next game and the lamps 15 of the displays 18 may remain lit during this carry over period between games so as to display the distribution

10. to the player.In the event that a jackpot win is obtained the machine resets and returns to the start-up displayed pattern of coins.

This carry over of a jackpot feature from game to game is only of a simulated nature. The available jackpot payout is always the

15. same irrespective of the number of filled regions 19 in the jackpot display.

Whilst reference is made to movement of features on and

20. interpretation of the displayed information on the front panel 2, it is of course to be appreciated that the motivation for the changes in the displays and the interpretation of such changes occurs within the control unit 12. Thus, when lights advance up rungs of the ladder 17 in correspondence with overprinted numbers on the reel displays,

25. this occurs because the unit 12 knows the stopping positions of the reels (as discussed above) and is therefore able to derive a numerical value (corresponding to the overprinted number) from stored data. This numerical value is used to control the transmission of switching pulses to the ladder lights and the finally illuminated rung is known

30. as a function of the number of such switching pulses. Similarly, movemet of the coins and illumination of region 19 is controlled by feed of switching pulses from the unit and the operation of the device 20 and the payout to be made are determined by the unit 12. with reference to stored data and not by reference to the region 19 illuminated.

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 describ
by way of example only. In particular, although reference is made
to coins and to a payout it is to be understood that the jackpot may
5. represent nudges or other features rather than coins.

Claims:

1. A coin- (or token-) operated entertainment machine which is operable to play games resulting in the selection and display of combinations of symbols and with which a win indication is given in
5. the event that a symbol combination of a predetermined winning nature is obtained and wherein at least one jackpot display is provided and the player has the opportunity in at least some games of achieving a jackpot win and thereby obtaining a prize award determined by an accumulated value shown on such jackpot display, characterised in
10. that there is provided means for augmenting the displayed accumulated value and the corresponding prize award when the player achieves the jackpot win.

2. A machine according to claim 1, characterised in that the prize
15. award is augmented such that a predetermined maximum prize value is obtained irrespective of the displayed value prior to the win.

3. A machine according to claim 1 or 2, characterised in that there are different jackpot displays.
20.

4. A machine according to any one of claims 1 to 3, characterised in that the or each jackpot display comprises a simulated coin receptacle with a plurality of regions whereat simulated coins can be displayed.

25. 5. A machine according to any one of claims 1 to 4, characterised in that the or each jackpot display is progressively visually changed during the course of a game in a manner simulating filling thereof.

6. A machine according to claim 5, characterised in that said simulated
30. filling comprises simulated movement of coins into the jackpot display.

7. A machine according to any one of claims 1 to 6, characterised in that when made available the jackpot value is only awarded after operation of a player control.

8.   A machine according to claim 7, characterised in that an opportunity is provided for gambling the award value.

9.   A machine according to any one of claims 1 to 8 which is a fruit machine.

10. A machine according to claim 1, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.