(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 365 367 A2

# (12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
**26.11.2003 Bulletin 2003/48**

(51) Int Cl.[7]: **G07F 17/32**

(21) Application number: **03253127.9**

(22) Date of filing: **19.05.2003**

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

(30) Priority: **20.05.2002 GB 0211501**

(71) Applicant: **Barcrest Development B.V.**
**6461 EN Kerkrade (NL)**

(72) Inventor: **Van Roosmalen, Peter**
**6351 HT Bocholtz (NL)**

(74) Representative: **Wilson Gunn M'Caw**
**41-51 Royal Exchange,**
**Cross Street**
**Manchester M2 7BD (GB)**

## (54) Entertainment machines

(57) Coin operated game machines (1-3) having rotatable reels (12) which display symbols (16) at a win zone are linked to a common control device (20). The control device (20) causes the reels (12) to rotate through the same numbers of steps for all machines. Each machine may have three reels which are 'offset' from their starting positions respectively by three different numbers of steps, the same combination of the three different numbers being used for all machines.

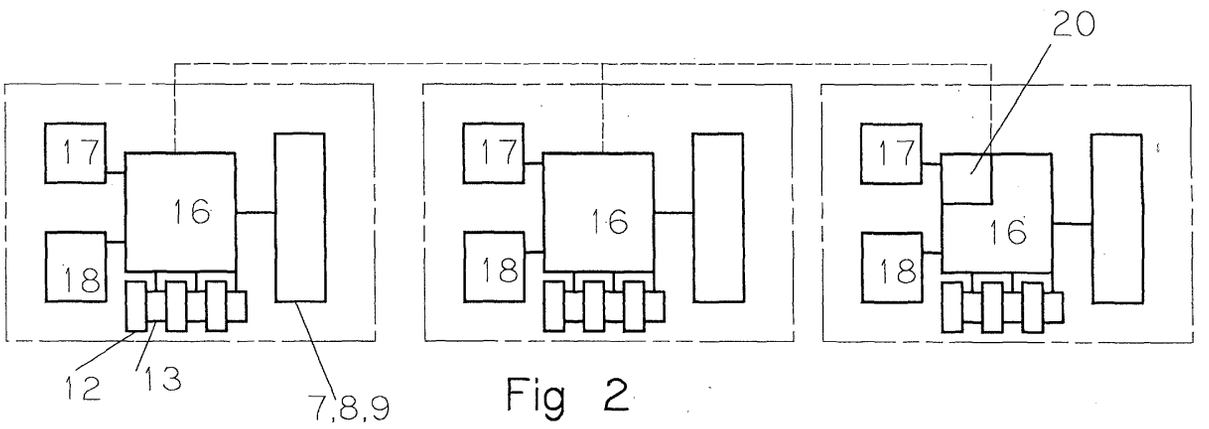


Fig 2

EP 1 365 367 A2

## Description

**[0001]** This invention relates to player-operable entertainment machines, particularly coin-operated amusement with prizes (AWP) machines, such as "fruit" or "poker" machines of the kind operable for playing a game having a main play feature involving selection and display at a win zone of a combination of symbols with a main display device. As used herein the term coin is intended also to cover tokens, charge or credit cards or any other means of supplying credit or monetary value.

**[0002]** The main display device of a fruit machine may comprise multiple side-by-side actual or video-simulated reels which are rotatable about a common horizontal axis within a housing behind a window at the win zone. Each reel has a series of symbols at equally spaced positions around its periphery and the reels can be brought to rest with one symbol on each reel displayed through the window on a win line.

**[0003]** If the displayed combination of symbols constitutes a predetermined winning combination an award may be made available to the player.

**[0004]** Typically, on play of a game, which may be initiated by operation of a start button, the reels are set in rotation so as to step through the respective symbol series and are brought to rest after different respective numbers of steps, the numbers of steps being generated on a random or pseudo random basis by a control system of the machine.

**[0005]** Particularly where several machines are provided next to each other at the same premises there is the possibility of linking the machines so that play features are implemented together for the different machines and this can promote player interaction and consequently enhance interest and entertainment value.

**[0006]** In this respect, common implementation of symbol selection in the main play feature could be desirable to promote player interaction. However, in so far as this would result predictably in a common outcome for all machines this could reduce variety and thereby adversely affect entertainment value.

**[0007]** An object of the invention is to provide for common implementation of symbol selection whilst enabling variety of operation to be maintained between machines.

**[0008]** According to one aspect of the invention therefore there is provided an assembly of linked entertainment machines each having a main display device which has a plurality of symbol series and is operable to select and display at least one symbol from each series determined by a selected magnitude of progression through the respective series, characterised by the provision of a common control device operable to select common said magnitudes for all said machines, wherein the main display device of each machine is operable to select and display said symbols in dependence on said magnitudes and also on starting conditions of the symbol series of the respective machine.

**[0009]** With this arrangement, in so far as the starting conditions of the symbol series may differ for the different machines, the symbol combinations selected may also differ notwithstanding the use of common magnitudes of progression.

**[0010]** Variety and entertainment value can therefore be maintained.

**[0011]** Progression through the series may be stepwise and the magnitudes of progression may constitute numbers of steps.

**[0012]** The starting conditions may constitute starting positions in the symbol series and in this case the magnitudes of progression may constitute number of steps, or 'offsets' from such starting positions.

**[0013]** Most preferably, the common control device provides a plurality of separately generated common magnitudes of progression, one for each symbol series of each machine, which magnitudes may be different from each other.

**[0014]** With regard to the starting conditions of each machine these may be determined by the end conditions, e.g. they may be the same as the end conditions, resulting from a previous operation of the main display device, e.g. from a previously played game, and the arrangement may be such that the common control device is operable to control symbol selection only for the (or each) machine which is in play in a common play mode and not for the (or each) machine which is not in play at all or at least in such a common play mode. Thus, if not all machines are in said common play mode the common control device will operate to progress through the symbol series of one (or some) of the machines leaving the symbol series of the (or each) other machine unchanged, or changed on a different basis, whereby in a next game, starting conditions will differ for different machines.

**[0015]** Thus and in accordance with a second aspect of the invention there is provided an assembly of linked entertainment machines each having a main display device which has a plurality of symbol series and is operable to select and display at least one symbol from each series determined by a selected magnitude of progression through the respective series, characterised by the provision of a common control device operable to select common said magnitudes for all said machines, wherein each machine is playable in an optional common play mode and the main display device of each machine is operable to select and display said symbols in dependence on said common magnitudes only when the respective said machine is in said common play mode.

**[0016]** This second aspect of the invention may have any or all of the features of the first aspect of the invention.

**[0017]** The common play mode may apply unless overridden to each machine whenever that machine is operated e.g. by pressing a start button. That is, the common play mode may be the normal play mode of the machine.

**[0018]** Alternatively or additionally, the common play mode may be an optional mode selectable by the player, e.g. by operating a control such as a press button. When not selected the machine may be inoperable or may be operable separately from the common control device.

**[0019]** Alternatively or additionally the availability of the optional common play mode may be controlled automatically on any suitable random, pseudo random or predetermined basis.

**[0020]** There may be a common mode display means for each machine, or common to all machines, to indicate the availability of common mode play.

**[0021]** The common mode play may occur simultaneously for all pertaining machines, or on any other interrelated basis.

**[0022]** The common control device may be located within or on one of the machines or separately thereto.

**[0023]** The common control device may operate substantially solely to generate the said common magnitudes. Alternatively other functions such as conversion of the magnitudes to operations of the main display devices interpretation of selected symbol combinations, etc may also be centralised in the common control device.

**[0024]** The main display device of each machine may be an actual or simulated rotatable reel, and the machines may be of the fruit machine kind described hereinbefore.

**[0025]** 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 schematic representation of one form of an assembly of machines according to the invention; and

Figure 2 is a block circuit diagram of the assembly.

**[0026]** Referring to the drawings, Figure 1 shows a number of linked entertainment machines 1-3 of the fruit machine kind each of which has a floor-standing box shaped housing 4 having a front wall which includes upper and lower glass panels 5, 6, a number of operating buttons 7, 8, 9, a coin slot 10 and a payout opening 11.

**[0027]** Within the housing 2 there are three axially aligned reels 12 having say 16 symbols at regularly spaced positions around their peripheries. The reels 12 are axially rotatable and are drivably connected to respective stepper motors 13. The reels 12 are arranged behind a window 14 defined by a printed region of the lower glass panel 6. Each reel 12 can be arrested by the respective stepper motor 13 in any of 16 stopping positions in which one symbol is in precise registration with a horizontal win line 15 in the centre of the window 14 and two further symbols are visible above and below the win line.

**[0028]** The stepper motors 13 are connected to a microprocessor-based control unit 16. This unit is also connected to a coin-mechanism 17, a payout mechanism 18 and the buttons 7, 8, 9.

**[0029]** In use, the player inserts coins into the coin mechanism 17 through the slot 10 sufficient to generate credit for one or more games. The amount of credit is shown on an LED or LCD display (not shown) and the machine is actuated so that a main game can now be played. The main game can commence after a start button 7 has been pressed and the reels 12 spin and then come to rest so as to select a combination of symbols displayed on the win line. The displayed symbol combination is assessed by the control unit 16 and a win indication is given in the event that the combination is of a predetermined winning nature.

**[0030]** The reels 12 rotate through different randomly (or pseudo-randomly) selected numbers of steps before coming to rest. The number of steps is computed for each reel 12 and a corresponding number of pulses is fed to the stepper motor 13 of that reel 12 so as to cause the reel 12 to be driven through the number of steps. The pulses then cease causing drive of the reel 12 to terminate whereupon rotation of the reel 12 is promptly arrested.

**[0031]** The stopping position of the reel 12, and hence the symbol displayed on the win line 15, is pre-known from: the known starting position of the reel 12 before rotation commences, the known sequence of symbols around the reel 12, and the computed number of steps. The resulting symbol combination for the three reels 12 is therefore known and the value of the award, if any, to be made available to the player is determined by comparison with a win table.

**[0032]** The operation so far described conventionally takes place under the control of the control unit 16.

**[0033]** In accordance with the illustrated embodiment the control units 16 of the respective machines are linked, e.g. by data cables 19 or the like, to a common central control device 20.

**[0034]** This device 20 conveniently may comprise, or be incorporated in, one of the control units 16 of one of the machines 1-3. However, alternatively it may comprise a separate device which may be mounted within or on one of the machines or at a separate location near to or remote from the machines. It is even possible to locate the control device 20 in a separate room or even in separate premises to the machines with an appropriate cable or wireless link between the device 20 and the machines 1-3.

**[0035]** This control device 20 centralises at least part of the above described operation, including the selection of the rotational steps for each reel 12 of each machine 1-3. That is, in relation to the above described three-reel machines, the control device 20 generates three numbers (usually successively larger numbers) say 12, 18, 22 and these numbers can be used for each machine, when in a common play mode, to effect rotation of the three reels 12.

**[0036]** This number generation occurs, in play, when any one of the machines 1-3 is set in play in a common

play mode, by pressing a common play mode selector button 9 instead of the usual start button 7. Operation of this button 7 transmits a signal to the central control device 20 which causes the central control device 20 to generate three numbers which are then supplied to that machine 1-3.

**[0037]** These numbers are supplied to all of the machines 1-3 for which the common play mode selector button 9 has been pressed.

**[0038]** All such machines 1-3 now operate simultaneously. That is the reels 12 of all machines 1-3 rotate simultaneously through the same numbers of steps, say 12, 18, 22.

**[0039]** In order to achieve simultaneous operation of the separately playable machines, there may be an alert and timing control, which may be implemented by the central control device 20, which may display a message on each machine, or on a separate display unit (not shown). This message, which may be provided by a digital display or print on a back-illuminated panel, may indicate that a common play game is available whereby a short period of time is allowed for players to press the selector buttons 9 and then play commences, at the end of the time period, or sooner if all selector buttons 9 or start buttons 7 for all machines have been pressed within the time period.

**[0040]** Any machine 1-3 which is not in the common play mode will not use the common numbers generated by the common control device 20 and may remain inoperable, or instead there may be provision for that machine to operate in the usual way using separately generated numbers which may be generated by the common control device 20 or the control unit 16 of that machine.

**[0041]** Thus, if all machines have 16 position reels 12 which all start in position No. 1, generation of numbers 12, 18, 22 will move the reels 12 of each machine at the same time, to positions 13, 3, 7, and each player will attain the same award, if any.

**[0042]** If any one machine 1-3 has not joined the common mode play the reels 12 of that machine may remain in position No. 1 or, if operated separately, may rotate to other positions.

**[0043]** At the next play option, if all machines join the common play mode, those machines which were in the common play mode in the previous game will now have different starting positions (e.g. 13, 3, 7) from the positions (e.g. 1, 1, 1) of any machine which did not join the common play mode. If therefore in this subsequent game the common numbers 6, 11, 16 are generated, the reels 12 of the former machines will all move to positions 4, 14, 7 whereas the reels of any latter machine will move to position 7, 12, 1.

**[0044]** Thus, even though a common number generator is used for all machines, the resulting symbol combinations can differ due to changes in starting positions.

**[0045]** Accordingly, enhanced variety and hence entertainment value can be obtained in the context of linked machines.

**[0046]** 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.

**[0047]** Thus for example, although the embodiment described utilises the selector button 9 to select common mode play, it is possible, and may be preferred to omit the button 9 whereby the normal mode of play is the common mode and is initiated simply by operation of the usual start button 7. Whilst all machines are played together by pressing the start buttons, the reels will rotate through the same numbers of steps. If any machine is not played in any game its reels will not rotate in that game and will therefore get out of step with the other machines. When that machine is played again in a subsequent game it will join the common game and its reels will rotate through the same number of steps as the other machines but now, being out of step, the outcome will differ. With this embodiment each machine only has the option of joining a common game, it cannot be operated in a separate stand alone game.

## Claims

1. An assembly of linked entertainment machines (1-3) each having a main display device (12) which has a plurality of symbol series and is operable to select and display at least one symbol (16) from each series determined by a selected magnitude of progression through the respective series, **characterised by** the provision of a common control device (20) operable to select common said magnitudes for all said machines (1-3), wherein the main display device (12) of each machine is operable to select and display said symbols (16) in dependence on said magnitudes and also on starting conditions of the symbol series of the respective machine.

2. An assembly according to claim 1 **characterised in that** progression through the series is stepwise and the magnitudes of progression constitute numbers of steps.

3. An assembly according to claim 1 or 2 **characterised in that** the starting conditions constitute starting positions in the symbol series.

4. An assembly according to any one of claims 1 to 3 **characterised in that** the common control device (20) provides a plurality of separately generated common magnitudes of progression, one for each symbol series of each machine.

5. An assembly according to any one of claims 1 to 4 **characterised in that** the starting conditions of each machine are determined by end conditions re-

sulting from a previous operation of the main display device (12).

**6.** An assembly according to any one of claims 1 to 5 **characterised in that** each machine is operable in an optional common play mode and the common control device (20) is operable to control symbol selection only for the (or each) machine which is in play in such mode.

**7.** An assembly of linked entertainment machines (1-3) each having a main display device (12) which has a plurality of symbol series and is operable to select and display at least one symbol (16) from each series determined by a selected magnitude of progression through the respective series, **characterised by** the provision of a common control device (20) operable to select common said magnitudes for all said machines, wherein each machine is playable in an optional common play mode and the main display device (12) of each machine (1-3) is operable to select and display said symbols in dependence on said common magnitudes only when the respective said machine is in said common play mode.

**8.** An assembly according to claim 6 or 7 **characterised in that** the common play mode is a normal play mode of the machine which applies unless overridden whenever the machine is operated.

**9.** An assembly according to claim 6 or 7 **characterised in that** the common play mode is an optional mode requiring selection by operation of a player control (9).

**10.** An assembly according to any one of claims 6 to 9 **characterised by** the provision of a common mode display means to indicate the availability of common mode play.

**11.** An assembly according to any one of claims 1 to 10 **characterised in that** the common control device (20) is located within one of the machines (1-3).

**12.** An assembly according to any one of claims 1 to 11 **characterised in that** the main display device (12) of each machine is an actual or simulated rotatable reel.

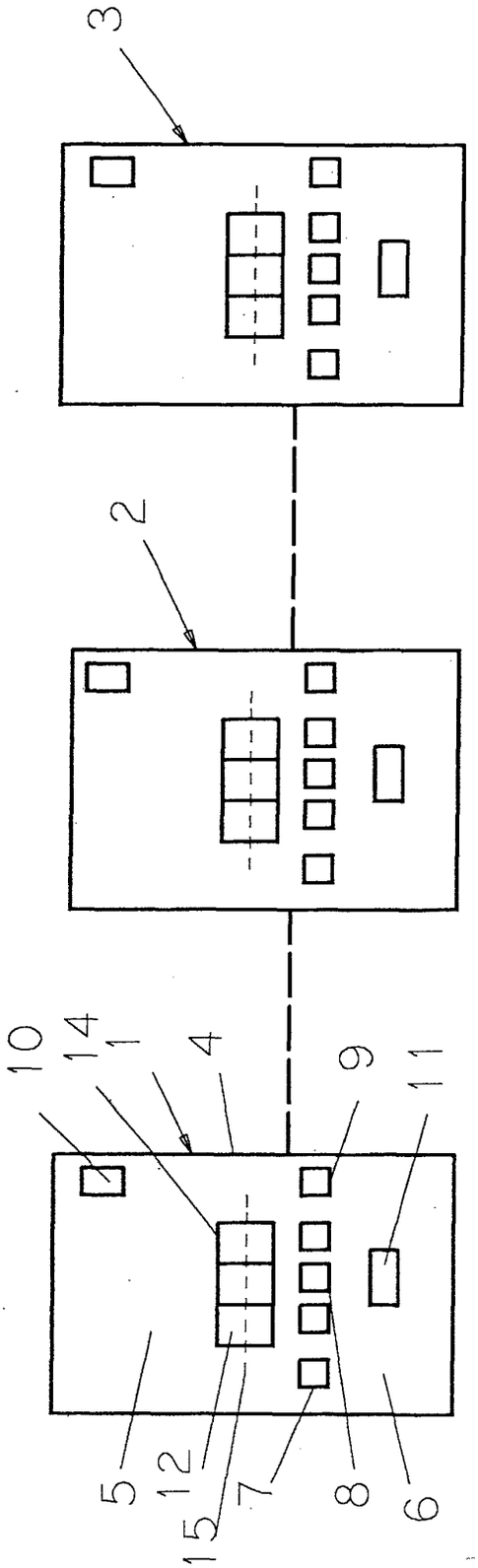


Fig 1

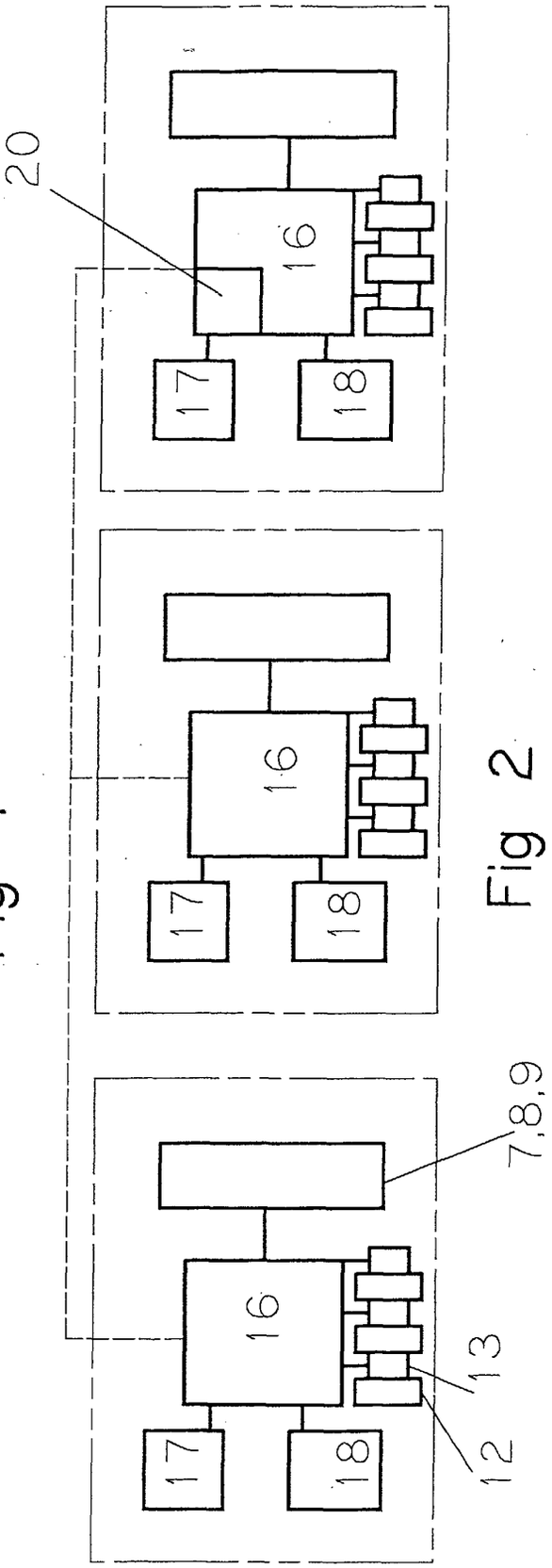


Fig 2