



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**05.12.2001 Bulletin 2001/49**

(51) Int Cl.7: **G07F 17/34**

(21) Application number: **01304170.2**

(22) Date of filing: **09.05.2001**

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

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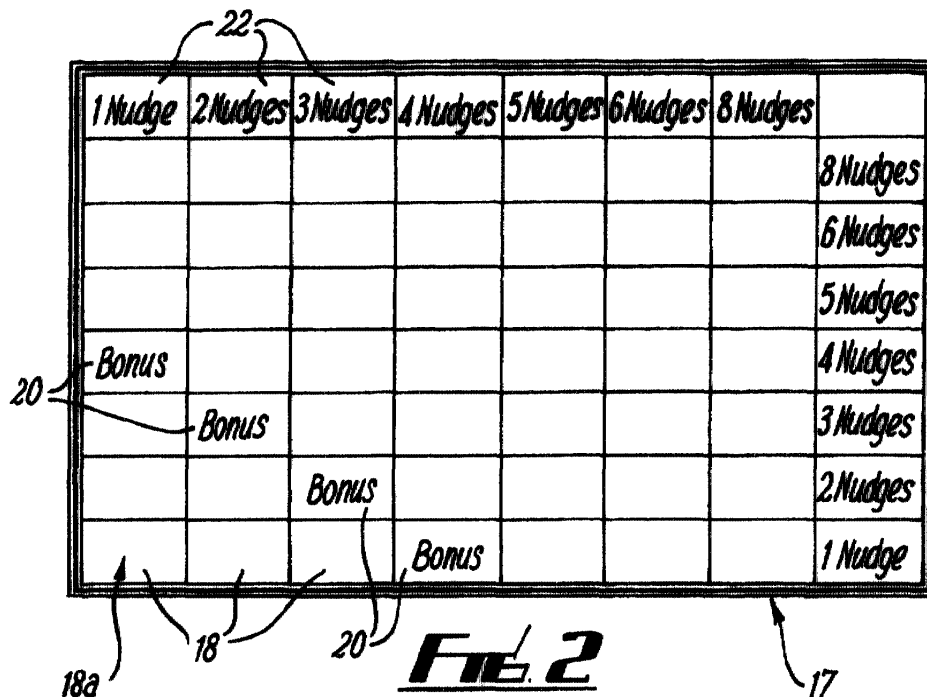
(30) Priority: **10.05.2000 GB 0011366**

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(54) **Entertainment machines**

(57) An entertainment machine has a main display at which symbols are selected, and displayed on a win line (50), using rotatable symbol-bearing reels (9). There is also a supplementary display (15) which comprises a back-illuminated matrix (17) of rectangular zones (18) arranged in mutually perpendicular rows and

columns. Transfer symbols (32) on the reels (9) indicate direction of movement, and number of zones of movement, through the matrix, such movement being made available when the transfer symbols (32) are displayed on the win line (50). The transfer symbols (32) may comprise arrows and numbers and may be provided alongside, or in place of, main symbols (30).



## 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 having a main display device for displaying a selected combination of symbols at a win zone. 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 reels which are rotatable about a common horizontal axis within a housing behind a window at the win zone. Each reel has 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] It is well known to provide a supplementary display or 'games feature' which can be used to enhance the entertainment value of the machine and provide additional or alternative opportunities for winning.

[0005] In particular, it is known to provide a panel having sections which can be selectively illuminated to represent movement from location to location around a region, e.g. so as to simulate the playing of a board game.

[0006] Play is transferred from the main reels to the supplementary feature on a random or predetermined basis, and then illumination of the panel sections may be effected by, or in correspondence with, a rotatable subsidiary feature reel, or otherwise, representing the spin of a reel or roll of a dice or other selection method.

[0007] Awards or award possibilities may be made available to the player in dependence on the location on the region to which play has progressed.

[0008] An object of the present invention is to provide a games feature having enhanced award possibilities.

[0009] According to the invention, there is provided an entertainment machine having a main display device which displays selected symbols at a win zone and a supplementary game-playing display region whereby play can transfer between the main display device and the supplementary game-playing region, characterised in that the supplementary display region comprises a matrix of selectable zones including one or more award zones wherein play can advance through the matrix in correspondence with selected symbols on the main display device.

[0010] With this arrangement, there may be enhanced award possibilities, in the sense of a wider range of kinds of awards and/or a wider range of routes to the attainment of awards, which can enhance game-playing entertainment.

[0011] As desired, but not necessarily, there may be enhancement of award value or frequency.

[0012] The main display device may take any suitable

form and may be in the form of actual or simulated rotatable reels bearing symbols, e.g. as mentioned above.

[0013] The said selected symbols may include one or more transfer symbols whereby play can transfer to the matrix only on selection of one or more of said transfer symbols.

[0014] The main symbols and each transfer symbols may take any suitable form and may be displayed on the main display device in any arrangement.

[0015] For example, the or each transfer symbols may be displayed with or be adjacent to one or more main symbols. Each transfer symbol may be incorporated in the main symbols.

[0016] Alternatively, or additionally, the transfer symbols may actually take the place of a main symbol.

[0017] For example, where the main device is in the form of actual/simulated rotatable reels bearing symbols, the reels may also bear one or more transfer symbols adjacent to or in place of a main symbol.

[0018] For play to transfer to the supplementary game playing region, the transfer symbols may be displayed anywhere in view within the win zone, or it may be required that the transfer symbols are displayed in a predetermined position in the win zone, e.g. on a win line.

[0019] The matrix may take any suitable form and may be any regular or irregular shape or configuration of zones.

[0020] However, preferably, the matrix comprises rows and columns of zones, which may be mutually transverse.

[0021] The matrix may comprise any number of zones which may be any shape e.g. square, rectangular, circular or with a curved outer perimeter.

[0022] In a preferred embodiment the matrix comprises rectangular said zones within a rectangular field.

[0023] As described above, play can advance through the matrix according to selected symbols.

[0024] The symbols may indicate to the player the route that play can advance through the matrix. For example, the symbol may indicate the allowed distance and/or direction of movement through the matrix. The symbol may also indicate the number of zones that may be traversed, and/or the direction.

[0025] Alternatively, or additionally, the symbol may indicate a destination in the matrix, to which play can advance.

[0026] The or each said award zone may bear a symbol to indicate the award.

[0027] Alternatively, the matrix may incorporate digital or other displays capable of operation to indicate different awards.

[0028] Progression of play through the matrix may be indicated in any suitable manner e.g. by back illumination of a number of panels.

[0029] Additionally or alternatively, progress of play through the matrix, may be simulated by display of moving images e.g. a video screen. Indeed, display of the selected symbols may be by way of a video screen.

**[0030]** Play may transfer between the main display device and the supplementary game-playing region automatically (i.e. outside the influence of the player) on selection of one or more symbols.

**[0031]** Alternatively, on selection of the said one or more transfer symbols, transfer of play to the supplementary display game may be under control of the player. The possibility of transfer of play to the supplementary display game may be indicated by e.g. illumination of the matrix or a zone thereof or, indeed, any suitable part of the machine.

**[0032]** There may be a predetermined entry position in the matrix, that is to say each time play transfers to the matrix, it may be necessary to start at a particular position.

**[0033]** Alternatively, there may be provision for play to begin from a position (e.g. the last position) gained in a previous game in the supplementary region.

**[0034]** Awards available from award zones may be automatically awarded, or may be credited to the player for future award, or the player may be given the option of trying to increase the award, e.g. by gambling this with a conventional 'gamble' feature, prior to award or credit.

**[0035]** Awards may be of any suitable nature, including monetary pay out, free games, scored points, extra 'nudges' or 'holds' or other games features (such as the main game). For example, at least one award zone may correspond to a predetermined number of 'nudges' made available to the player in the main game.

**[0036]** One or more award zones may allow the player a 'bonus' move, i.e. may allow or offer the player further progress through the matrix by effecting or contributing to movement between the zones.

**[0037]** One or more award zones may offer the player a multi-level start into a further supplementary games feature of the machine. Alternatively, or additionally, one or more award zones may offer a second entry into the matrix.

**[0038]** The awards of different zones may be of different kinds. For example, awards may change by increase in value from zone to zone, or throughout the matrix from one part to another part. For example, in the case of a square grid, awards may increase in value from one corner zone to another corner zone. Awards may be located so as to be concentrated in a particular area of the matrix e.g. in the zones along all or part of the perimeter of the matrix.

**[0039]** There may be incentive for the player to seek to move in a particular direction, from one zone to another zone in addition to or rather than obtaining an award already offered by a zone, in the hope of obtaining a higher value award.

**[0040]** Provision may be made for storage or accumulation of awards e.g. for subsequent use in the supplementary game or in another games feature of the machine.

**[0041]** To this end there may be provided player op-

erable control means to allow the player to choose either to obtain an award or to store the award.

**[0042]** More preferably the entertainment machine is a coin-operated machine, particularly a coin-operated 'amusement with prizes' (AWP) machine which may be of the fruit machine or poker machine kind using actual (or simulated) rotatable reels as mentioned above the main display device.

**[0043]** The invention will now be described further by way of example only and with reference to the accompanying drawings in which:-

Fig. 1	is a diagrammatic perspective view of one form of an entertainment machine according to the invention;
Fig. 2	is an enlarged diagrammatic view of part of the display of the machine of Fig. 1;
Fig. 3	is a block circuit diagram of the machine; and
Figs. 4a & 4b	show symbols which can be selected and displayed.

**[0044]** Referring to the drawings, Fig. 1 shows a fruit machine having a floor-standing box shaped housing 1 having a front wall which includes upper and lower glass panels 2, 3, a number of operating buttons 5, 6, a coin slot 7 and a payout opening 8.

**[0045]** Within the housing 1 there are three axially aligned reels 9 having say twenty main symbols 30 at regularly spaced positions around their peripheries. The reels 9 are axially rotatable and are drivably connected to respective stepper motors 10. The reels 9 are arranged behind a main display device including a window 11 at a win zone, the window being defined by a printed region of the lower glass panel 3. Each reel 9 can be arrested by the respective stepper motor 10 in any of twenty stopping positions in which one main symbol 30 is displayed in precise registration with a horizontal win line 50 in the centre of the window 11 and two further main symbols 30 are visible above and below the win line 50.

**[0046]** It will be appreciated that the above configuration could be replaced, at least in part, by simulated reels using a video screen or other suitable means.

**[0047]** As described in more detail hereinafter, the upper glass panel 2 has a back-illuminated printed region 15 which defines a matrix 17 of zones 18.

**[0048]** In addition to the-main symbols on the reels 9, transfer symbols are also provided either adjacent to a main symbol, as shown in Fig. 4a, or in place of a main symbol 30 as shown in Fig. 4b. The transfer symbols comprise a directional arrow and a number which correspond respectively to the direction of movement which is allowed through the matrix 17 and the number zones 18 that may be traversed.

**[0049]** Thus the configuration of the transfer symbols 32 comprising an upwardly directed arrow containing a

number three as shown in Fig. 4a, allows movement through three zones 18 in an upward direction.

[0050] The stepper motors 10 are connected to a microprocessor-based control unit 12. This unit is also connected to a coin-mechanism 13, a payout mechanism 14 and the buttons 5, 6.

[0051] In use, the player inserts coins into the coin mechanism 13 through the slot 7 sufficient to generate credit for one or more games, and the machine is actuated so that a game can now be played. The game commences after a start button 5 has been pressed and the reels 9 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 12 and a win indication is given in the event that the combination is of a predetermined winning nature. This is the main feature game.

[0052] The control buttons 6 can be used to perform 'hold' or 'nudge' functions, when made available to the player, so that the player can seek to influence the outcome of a game, in conventional manner.

[0053] The upper panel 2 is a transparent glass panel and, as mentioned, within this there is the printed display region 15, which can be back-illuminated with a bank of lights 16, and which provides a supplementary games feature.

[0054] As shown, this games feature consists of a matrix 17 containing a grid of printed zones 18. The matrix 17 is a rectangular field of like rectangular zones 18 arranged in mutually perpendicular rows and columns.

[0055] The matrix includes a plurality of award zones 20, 22 and these are marked with symbols, relating to awards as will be described below. Four awards zones 20 are located in a diagonal across the matrix 17. The remaining fourteen award zones 22 are located in perimeter positions on two sides of the matrix.

[0056] Play can progress through the matrix 17 by successive back illumination of the zones 18 simulating movement through a number of steps. The movement corresponds to the transfer symbol selected with the main reel 9.

[0057] The award zones 20 are marked with one or more 'bonus' symbols, and the perimeter zones 22 are marked with one or more 'nudge' symbols.

[0058] Play transfers to the matrix 17 when a transfer symbol on the main reels 9 is selected on the win line.

[0059] On each transfer to the matrix 17, play automatically begins at the zone 18a in the lower left hand corner of the matrix 17. Depending on the transfer symbol 32 selected play then progresses through the matrix to a zone which is then back-illuminated. In the case where an 'bonus' award zone is illuminated, this offers a bonus to the player. Certain 'bonus' zones allow further advancement of the players position within the matrix 17. The bonus may be indicated by a symbol indicating the distance (i.e. number of zones) and direction of movement which is offered. The symbol may be configured as for the transfer symbols shown in Fig. 4a or Fig.

4b.

[0060] Other 'bonus' zones may offer the player a multi-level start into a secondary bonus game (not shown) which is provided in addition to the matrix. Alternatively, or additionally, other 'bonus' zones may offer the player a second entry into the matrix providing a multi-level entry into the matrix. Other 'bonus' zones may offer cash prizes which may be of increasing value.

[0061] If, in accordance with the selected transfer symbol or above mentioned bonus, play advances to a zone 18 in which no award is offered then play automatically reverts back to the main 'reel' games feature to continue there if play advances to the perimeter 'nudge' zones 22, then the player is given a number of nudges (between 1 and 8 as indicated in Figure 2) for use in playing the main 'reel' games feature. Play then transfers automatically to the main games feature and the number of 'nudges' allocated become available.

[0062] The number of nudges may also be displayed within an area of the main display device.

[0063] One or more limitations may be imposed on the foregoing by virtue of time, or number of operations, or game duration or game outcome or otherwise. Accumulated 'nudges' or 'bonuses' gained may be maintained throughout successive games or may be reset or cancelled at the end of a game or at the end of play of the feature game.

[0064] With the arrangement described above, there are enhanced possibilities for attaining awards in the feature game which provided additional player entertainment.

[0065] 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.

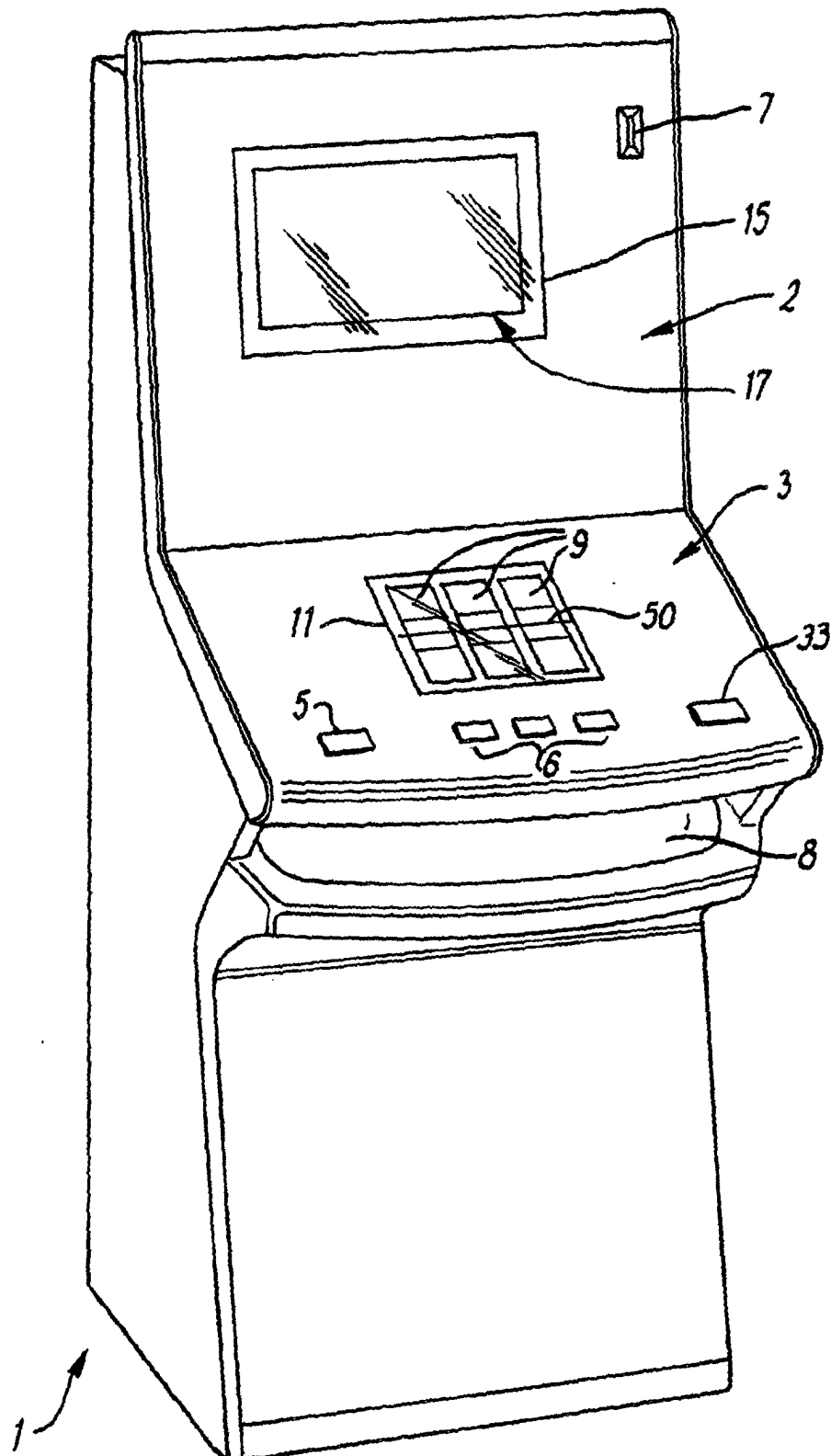
## Claims

1. An entertainment machine having a main display device (9) which displays selected symbols at a win zone (50) and a supplementary game-playing display region whereby play can transfer between the main display device and the supplementary game-playing region, **characterised in that** the supplementary display region (15) comprises a matrix (17) of selectable zones (18) including one or more award zones (20, 22) wherein play can advance through the matrix (17) in correspondence with selected symbols (32) on the main display device (9).
2. A machine according to claim 1 **characterised in that** the main display device comprises actual or simulated rotatable reels (9) bearing symbols (30, 32) including the said selected symbols (32).
3. A machine according to claim 1 or 2 **characterised in that** the said selected symbols (32) include one

or more transfer symbols additional to main symbols (30) of the main display device whereby play can transfer to the matrix (17) only on selection of one or more of said transfer symbols (32).

4. A machine according to claim 3 **characterised in that** the or each transfer symbol (32) is displayed with or adjacent to one or more said main symbols (30). 5
5. A machine according to claim 3 **characterised in that** the or each transfer symbol (32) is displayed separately, in place of the main symbols (30). 10
6. A machine according to any one of claims 3 to 5 wherein the win zone has a win line (50) **characterised in that** the or each said transfer symbol (32) is selected when displayed on the win line (50). 15
7. A machine according to any one of claims 1 to 6 **characterised in that** the said selectable zones (18) are arranged in mutually transverse rows and columns. 20
8. A machine according to any one of claims 1 to 7 **characterised in that** the matrix (17) comprises rectangular said zones (18) within a rectangular field (15). 25
9. A machine according to any one of claims 1 to 8 **characterised in that** the selected symbols (32) indicate number of zones (18) traversed through the matrix (17). 30
10. A machine according to any one of claims 1 to 9 **characterised in that** the selected symbols (32) indicate a direction of movement through the matrix (17). 35
11. A machine according to claim 10 **characterised in that** the direction is selected from two mutually perpendicular directions. 40
12. A machine according to any one of claims 1 to 11 **characterised in that** the selected symbols (32) indicate destinations in the matrix (17) to which play advances. 45
13. A machine according to any one of claims 1 to 12 **characterised in that** the (or at least one) award zone (22) corresponds to a number of nudges made available to the player. 50
14. A machine according to any one of claims 1 to 13 **characterised in that** the (or at least one) award zone (20) corresponds to a bonus allowing further movement through the matrix. 55

15. A machine according to any one of claims 1 to 14 **characterised in that** the said zones (18) are back illuminated to indicate progression from zone to zone.



**FIG. 1**

