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(54) **Display system for playing a game**

(57) A display system for use in playing a game comprises a play area 12 and a display device 4 operable to display a multi-face body 20, such as a cube at said area. A number of faces 21 of body 20 are display faces having thereat respective sets of symbols selectors. First actuation means 14 are provided to cause the body to move between predetermined positions whereby, at each such position, a respective selected one of the display faces

21 is exposed at the play area to a greater extent than the (or each) other display face (or faces). Additionally, second actuation means 16 are provided to cause the selectors of the selected display face to change to cause a selected combination of symbols to be displayed at the play area. With this arrangement, by movement of the body 20 to bring the different selector sets respectively into display position at the play area 12, clear display of individual sets can be readily achieved.

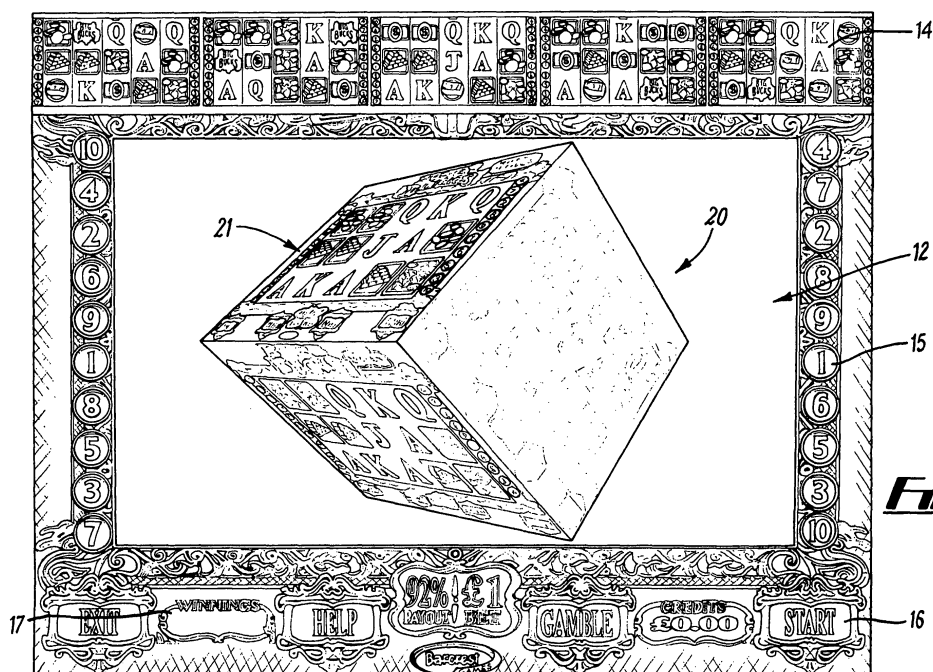


Fig 4

Description

[0001] This invention relates to a display system, for displaying combinations of selected symbols for use in playing a game. The invention is particularly although not exclusively concerned with such display systems forming part of a game-play apparatus including player-operable coin-operated gaming or amusement machines, and gaming or amusement systems having player-operable terminals connected to remote servers. As used herein the expression coin-operated includes operation by coins, tokens, notes, credit or debit cards, or any other suitable means of providing credit or monetary value.

[0002] Conventional reel-based game-play apparatus, such as fruit machines, have a plurality of actual or video-simulated side-by-side symbol-bearing reels, say 3, 4 or 5 reels, which act as symbol selectors. During play of a game, after credit of a predetermined game-play stake value, the reels are rotated and then brought to rest to display, through a window or at a play area, on one or more win lines, one or more combinations of symbols on the peripheries of the reels. The (or each) such combination is evaluated and an award may be made available in the event that the combination is of a predetermined winning nature.

[0003] For play interest, and to enable the variety and number of selectable combinations to be enhanced, it is known to provide multiple win lines. For example, each reel may display say three consecutive symbols at the window or play area and there may be multiple straight or angled win lines through different arrangements of the different displayed symbols of the different reels. Also, it is known, particularly in the context of a video-simulated reel display to provide multiple sets of reels and this advantageously can provide a particularly enhanced range of selectable combinations. However, the problem arises that it can be difficult to display to the player multiple sets of reels in a clear and non-confusing manner especially if provision is made for wide-ranging variation or selection possibilities.

[0004] An object of the present invention is to provide a display system, for use in playing a game, with which multiple sets of symbol selectors can be readily displayed in a clear and non-confusing manner.

[0005] According to the invention therefore there is provided a display system for use in playing a game, said system comprising a play area, a display device operable to display a multi-face body at said area, at least two faces of the body being display faces having thereat respective sets of symbols selectors, first actuation means to cause the body to move between predetermined positions whereby, at each such position, a respective selected one of the display faces is exposed at the play area to a greater extent than the (or each) other display face, and second actuation means to cause the selectors of the selected display face to change to cause a selected combination of symbols to be displayed at the play area.

[0006] With this arrangement by movement of the body

to bring the different selector sets respectively into display position at the play area, clear display of individual sets can be readily achieved.

[0007] The multi-face body may be a regular or irregular polyhedral three-dimensional body particularly a cube. Some or all of the faces may be display faces. In the case of a cube preferably all six faces are display faces.

[0008] The selector sets may be of like or different form, preferably of like form. Within each set, the individual selectors may be of like or different form, preferably of like form. Each selector may comprise a predetermined sequence of symbols of two or more different kinds. The second actuation means may operate to provide a continuous moving display of the entire sequence with only a predetermined number of consecutive said symbols, say three symbols, being revealed at the same time. In a particularly preferred embodiment the selectors are, or represent, rotatable reels with the sequences of symbols being provided around their peripheries. There may be say 3, 4 or 5 side-by-side selectors in each set.

[0009] The play area may be defined by an area of a video screen and the multi-face body and the sets of selectors may be video representations.

[0010] The display apparatus may have a supplementary display region alongside the play area on which representation of one or more of the display faces of the body, other than the selected display face, are shown. The player can therefore see display faces which otherwise would be at least partially hidden. Preferably all of the other faces are shown. Thus with a cube-shaped body with six display faces, one such face may be shown at the play area and the other five at the supplementary display region. Alternatively, all six faces may be shown at the supplementary display region.

[0011] The multi-face body may be shown in reduced proportion in the play area whilst it is moving and, when movement ceases, the selected display face may expand to occupy a larger part of the play area.

[0012] Operation of the first and/or second actuation means may be automatic and/or under player control. Preferably both means are at least optionally under player control such that the player has to operate one or more controls, such as push-buttons, touch screen controls, or the like, in order to initiate operation of the means and/or to influence the selection operation of the means. In this way provision may be made for the player to apply judgement and skill or at least personal choice in the selection processes. For example, the player may be able to effect selection of a desired display face.

[0013] The arrangement may be such that, in play of one game, only one display face is selected and utilised for selection of symbol combinations. Alternatively, the arrangement may be such that multiple display faces are successively selected and utilised for selection of symbol combinations. The player may have the option of deciding how many and which display faces are to be utilised in a game.

[0014] The selectors of the (or each) display face selected for utilisation may change as aforesaid after selection of the display face. Alternatively the selectors of one or more selected faces may be held against changing, or may change before selection of the respective face. Thus, the arrangement may be such that, when selecting a display face, the player achieves a symbol combination already known to the player, or a surprise combination.

[0015] The display device described above is preferably incorporated in game-play apparatus as described above. The display device may be operable, as described above, in playing the sole, or main game of the apparatus. Alternatively, the display device may be operable for playing a subsidiary game, such as a feature game or bonus game which is made available in dependence on the outcome of a different main game or which is made available as a consequence of some bonus event or otherwise.

[0016] Further gaming or award possibilities may arise for playing subsidiary games such as bonus games or providing new awards, etc. Said further gaming or award possibilities may arise from interactions or combinations of symbols on the display faces of the multi-face body.

[0017] Operation of the display device may be dependent on actuation of the apparatus with a predetermined game-play stake. This may entitle the player to selection of all, or a predetermined number of display faces for utilisation. Alternatively, the number of selectable display faces may be determined by the stake value selected by the player.

[0018] The (or each) symbol combination selected with the (or each) symbol set may be evaluated, by evaluation means, and utilised to determine an award which may then be made available to the player with award means.

[0019] All awards may be a monetary value paid or credited to the player. Alternatively or additionally there may be other kinds of awards, such as transfer to a bonus or feature game which may have enhanced possibilities for attaining monetary awards.

[0020] The game play may also take place via the internet, mobile telephone, handheld console, or any other device. In this embodiment, the play area is provided by the video screen area of the said device.

[0021] 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 representation of one form of an entertainment machine incorporating a display system according to the invention;

Figure 2 is a diagrammatic block circuit diagram of the machine of Figure 1;

Figures 3 & 4 are detailed views of displays of the machine of Figures 1 and 2.

[0022] As shown in Figure 1, the entertainment ma-

chine has a floor-standing, wall-mounted, or table-top box shaped cabinet 1 having an upper front glass panel 2 which is screen-printed to define a central window area 3 through which a screen 4 of a VDU 5 is exposed.

[0023] Above or below the panel 2 at a convenient location there is located a coin or note slot 6 for introduction of coins, tokens or notes, and below the panel 2 there is a pay-out opening 7.

[0024] As shown in Figure 2, within the cabinet 1 there is mounted the VDU 5, a receiving mechanism 8 for coins, tokens or notes connected to the slot 6, a pay-out or award device 9 connected to the outlet 7, and a processor unit 10 with an evaluator 10a to which these parts are connected.

[0025] Beneath the panel 2 there are player-operable push buttons 11 which are also connected to the processor unit 10. It is also possible to use touch-screen controls.

[0026] As shown in Figures 3 and 4, the VDU screen 4 shows a central rectangular play area 12, a supplementary display region 13 above the play area 12 divided into five side-by-side small rectangular areas 14, a series of numbers 15 at each short side of the rectangular play area 12, and various indicators 16, 17 beneath the play area 12. Some of the indicators 16 relate to functions, such as 'Start', 'Gamble', 'Help', 'Exit' and these may relate to corresponding press buttons 11, or may be touch screen areas. Other indicators 17 provide digital or alphanumeric displays recording e.g. game-play credit and winnings.

[0027] As shown in Figure 3, the play area 12 can provide a display simulating five side-by-side fruit machine reels 18, that is, reels having symbols 19 at equally spaced positions around their peripheries and which can each rotate and then come to rest to display three consecutive symbols 19, in a vertical column one above the other at the play area 12 with the symbols of the different reels 18 aligned in three horizontal rows.

[0028] In accordance with conventional practice, the machine includes an evaluator 10a which evaluates combinations of the symbols 19 displayed at the play area 12 along one or more win lines, as indicated by the numbers 15. Any one or more of the three rows of horizontally aligned symbols 19, and various diagonal, stepped, zig zag or other angular paths across the five columns of symbols 19 may be win lines. The award device 9 of the machine is associated with the evaluator 10a whereby an award can be made available when an evaluated symbol combination is of a predetermined winning nature.

[0029] The five small rectangular areas 14 display five simulated symbol-bearing reels 18 in like manner to the main play area 12. The reels 18 of these smaller displays may have the same peripheral symbol sequences as those of the respective reels 18 of the main play area 12, or different symbol sequences may be used.

[0030] After insertion of coins, tokens or notes into the slot 6 to an amount at least equal to a predetermined game-play stake value, the machine can be operated to

play a game. Credit is shown on the credits indicator 17.

[0031] The player may now have the option of playing a conventional game using the reels 18 shown at the main play area 12 with multiple win lines. In that case, after pressing the start button 16 the reels 18 rotate and then come to rest and winnings are indicated on the winnings indicator 17 in the event that a winning combination is attained on any of the win lines. By operating a gamble button 16 a gamble feature can be implemented whereby the player seeks to increase the value of a win. By operating an exit button 16 the player can obtain a payout of accumulated winnings or transfer this to credit for use in playing further games.

[0032] Alternatively or additionally the player can play a multiple selection game. This may be available automatically for all games, or it may be available at the option of the player e.g. by utilising a higher stake value or by substituting the multiple selection game for the multiple win line game described above, or it may become available on an occasional e.g. random basis or as a bonus game triggered by a bonus event.

[0033] The multiple selection game involves selection of symbols 19 with the set of reels 18 initially shown at the play area 12 as described above, followed by similar selection of symbols 19 with the set of reels 18 on one or more of the smaller displays at the areas 14. The or each of the smaller displays in use is enlarged and transferred to the main play area 12 to appear in like manner to the initial reel display at such area.

[0034] Where all smaller reel displays from all areas 14 are used they may transfer automatically in turn to the play area 12. Where only one or some of the displays are used they may be automatically selected from the five available displays on any predictable or random basis or they may be selected by the player by operating a control e.g. by touching the areas 14 with the smaller displays on the video screen.

[0035] Transfer of a selected smaller display to the main play area 12 occurs as shown in Figure 4. The six reel displays, namely the initial display at the play area 12 and the five smaller displays at the areas 14 are represented on respective faces 21 of a three-dimensional cube 20. As shown in Figure 4 the initial display is highlighted or shown more brightly on the respective cube face 21 whereas the other faces 21 are shown in shadow. When one of the other displays on one of the other faces 21 is selected that face becomes highlighted and all other faces are then in shadow. The cube 20 rotates about a pivot point in the centre of the cube in any predictable or random manner until the selected face 21 is face-on to the play area 12. This face 21 then expands to occupy the entire play area 12.

[0036] As shown, the cube faces 21 have representations of the reels 19 and also the adjoining side and bottom displays, namely the numbers 15 and the indicators 16, 17. Also, at the top there is shown a decorative strip rather than the supplementary display region 13.

[0037] The arrangement may be such that, after ex-

panding to occupy the play area 12, the reels 19 may then rotate and come to rest for symbol selection purposes. Alternatively the reels 19 may rotate and come to rest during or prior to the transfer to the play area 12 e.g. during rotation of the cube 20.

[0038] After transfer of one reel display to the play area 12, in the case where a further reel display is subsequently to be transferred, the displayed supplementary display region 13 may first reappear on the video screen, possibility modified by order or by number of areas 14 to allow for reel displays already transferred. In each case, for each transfer, this is done using the rotating cube display as described above.

[0039] The player may be shown a starting position i.e. a pre-rotation position for each reel display prior to transfer. It is also possible to use an arrangement in which the reel displays are concealed prior to transfer, or the reel displays are fixed and do not change by rotation of the reels.

[0040] After selection of symbols with all sets of reels which are available for utilisation in the game, all selected symbol combinations are evaluated and any winnings are accumulated from all combinations and are shown on the winnings indicator 17 for pay out to the player or for transfer to credit for use in funding further games.

[0041] In this way, where for example all six reel displays are used in a game, the player has at least six possibilities for winning. In the case where each reel display is evaluated along multiple win lines, the possibilities for winning will be a multiple of six. The overall odds may be the same as would be the case with a single reel display as a consequence of a requirement for an increased game-play stake value and/or as a consequence of reduced likelihood of winning for each reel display e.g. by reduction in number of win lines used for evaluation.

[0042] With the above described embodiment the movable cube 20 provides an interesting and clear means for representing transfer of six different reel displays to the play area 12. This permits enhanced variety with minimal confusion.

[0043] 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.

[0044] Thus for example, a movable body other than a rotatable cube 20 may be used. Any suitable regular or irregular body movable in any suitable manner may be used.

[0045] Further, although Figure 4 shows rotation of the cube about a diagonal axis it is to be understood that rotation may take place on any one or more axes. Thus the cube may rotate about a vertical axis and/or a horizontal axis. Rotation may be of a predetermined consistent nature e.g. always about a predetermined axis or axes, or it may be of an irregular or random tumbling nature, or otherwise.

Claims

1. A display system for use in playing a game, said system comprising a play area, a display device operable to display a multi-face body at said area, at least two faces of the body being display faces having thereat respective sets of symbols selectors, first actuation means to cause the body to move between predetermined positions whereby, at each such position, a respective selected one of the display faces is exposed at the play area to a greater extent than the (or each) other display face, and second actuation means to cause the selectors of the selected display face to change to cause a selected combination of symbols to be displayed at the play area. 5
2. A display system as claimed in claim 1 or claim 2 wherein all of the faces are display faces. 10
3. A display system as claimed in any preceding claim wherein the selector sets are of like or different form and/or within each set, the individual selectors are of like or different form. 15
4. A display system as claimed in any preceding claim wherein each selector comprises a predetermined sequence of symbols of two or more different kinds. 20
5. A display system as claimed in any preceding claim wherein the second actuation means operates to provide a continuous moving display of the entire sequence with only a predetermined number of consecutive said symbols being revealed at the same time. 25
6. A display system as claimed in any preceding claim wherein the selectors are, or represent, rotatable reels with the sequences of symbols being provided around their peripheries. 30
7. A display system as claimed in any preceding claim wherein the display apparatus has a supplementary display region alongside the play area on which representation of one or more of the display faces of the body, other than the selected display face, are shown. 35
8. A display system as claimed in any preceding claim wherein the multi-face body is shown in reduced proportion in the play area whilst it is moving and, when movement ceases, the selected display face expands to occupy a larger part of the play area. 40
9. A display system as claimed in any preceding claim wherein operation of the first and/or second actuation means is automatic and/or under player control. 45
10. A display system as claimed in claim 9 wherein both means are at least optionally under player control such that the player has to operate one or more controls, such as push-buttons, touch screen controls, or the like, in order to initiate operation of the means and/or to influence the selection operation of the means. 50
11. A display system as claimed in any preceding claim wherein in play of one game, only one display face is selected and utilised for selection of symbol combinations or wherein multiple display faces are successively selected and utilised for selection of symbol combinations. 55
12. A display system as claimed in any preceding claim wherein the selectors of the (or each) display face selected for utilisation: change as aforesaid after selection of the display face, selected faces are held against changing, or change before selection of the respective face.
13. A display system as claimed in any preceding claim wherein when selecting a display face, the player achieves a symbol combination already known to the player, or a surprise combination.
14. A display system as claimed in any preceding claim wherein the display device is incorporated in game-play apparatus and is operable for playing the sole, or main game of the apparatus and/or is operable for playing a subsidiary game, such as a feature game or bonus game which is made available in dependence on the outcome of a different main game or which is made available as a consequence of some bonus event.
15. A display system as claimed in claim 14 wherein operation of the display device is dependent on actuation of the apparatus with a predetermined game-play stake.
16. A display system as claimed in claim 15 wherein the number of selectable display faces is determined by the stake value selected by the player.
17. A display system as claimed in claim 15 or claim 16 wherein the (or each) symbol combination selected with the (or each) symbol set is evaluated, by evaluation means, and utilised to determine an award which is then made available to the player with award means and wherein the award is a monetary value paid or credited to the player or is a transfer to a bonus or feature game.
18. A display system as claimed in any preceding claim wherein the display screen is incorporated in an internet connected terminal, a mobile telephone or a handheld console.

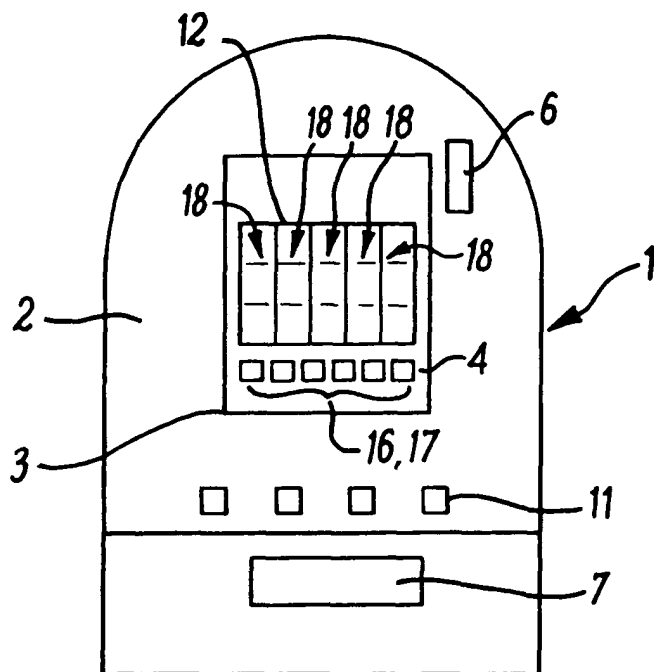


Fig. 1

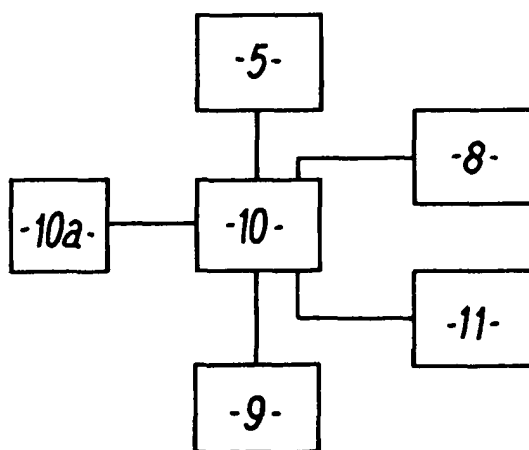


Fig. 2

FIG. 3

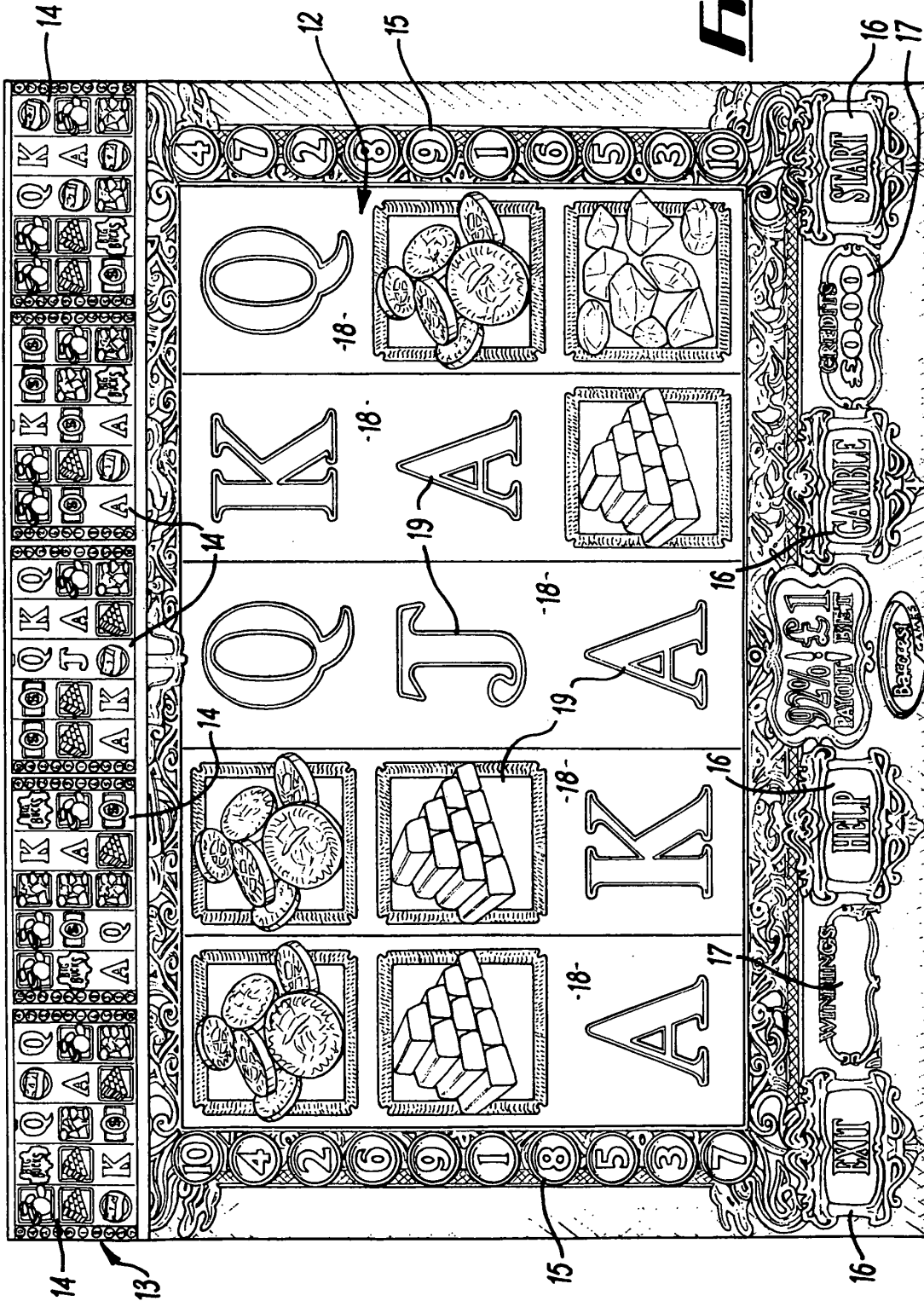
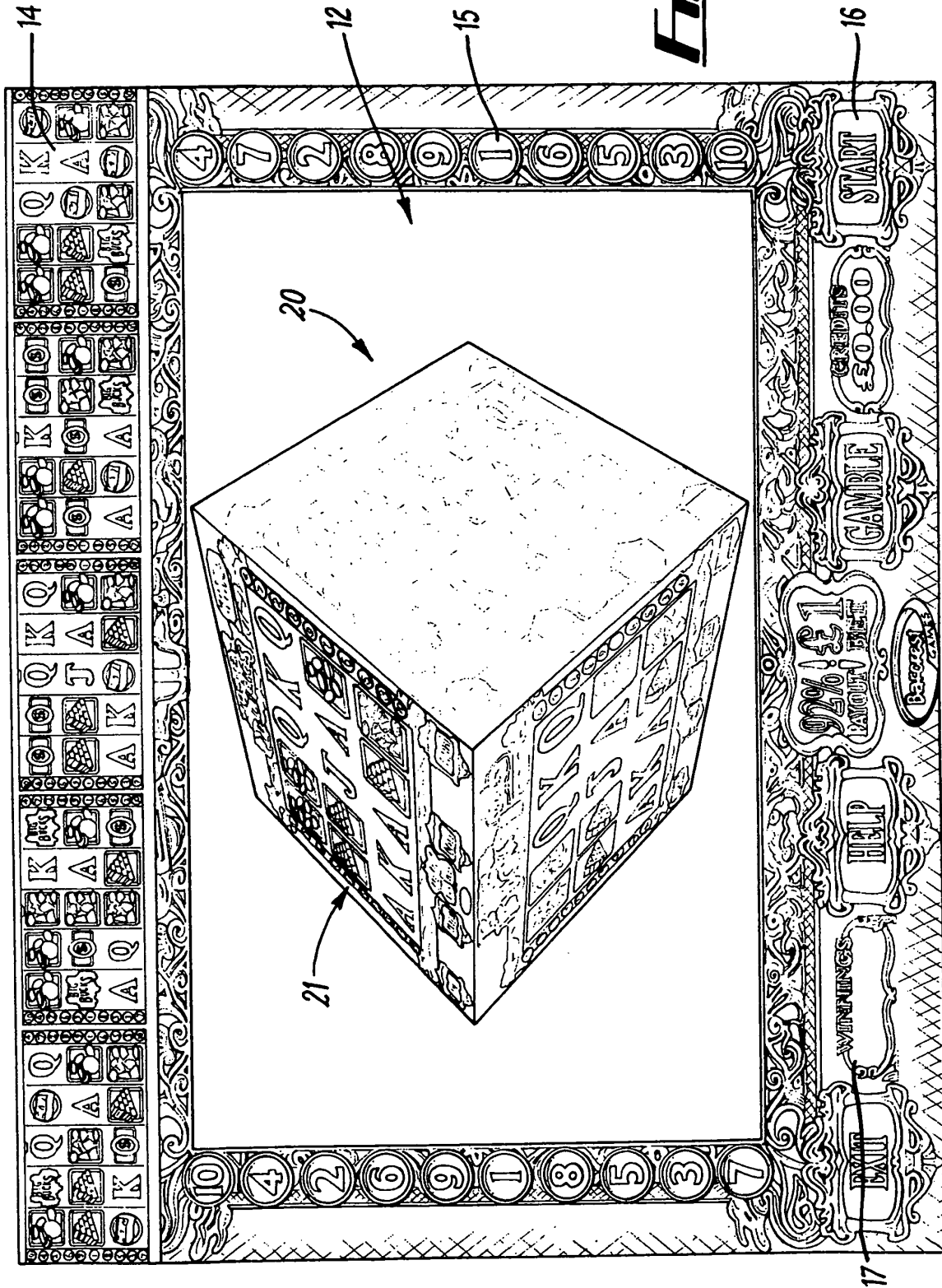


FIG. 4





EUROPEAN SEARCH REPORT

Application Number
EP 09 25 0185

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2005/233799 A1 (LEMAY STEVEN G [US] ET AL) 20 October 2005 (2005-10-20) * the whole document *	1-18	INV. G07F17/32
X	US 6 746 329 B1 (DUHAMEL GERALD [CA]) 8 June 2004 (2004-06-08) * the whole document *	1-18	
A	US 5 678 015 A (GOH ENG LIM [SG]) 14 October 1997 (1997-10-14) * the whole document *	1-18	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			G07F
Place of search		Date of completion of the search	Examiner
The Hague		3 June 2009	Guenov, Mihail
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 25 0185

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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03-06-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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