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(54) Electronic game device.

(57) A microprocessor based electronic game device has a central unit with a digital display (28, 29) and several remote units (2) for the players. Any of several games to play can be selected by controls (7-10) on the central unit. Further controls (11-26) serve for inputting other instructions and/or information to the unit. Information relating to or forming part of a game can be displayed on the digital display (28, 29) Other information such as scores or score totals can also be displayed. The device is self-contained, not requiring connection to an external television set. In one game the digital display is arranged to generate letter symbols. The digital display can be provided by 7-segment display cells and may be arranged, in one game, to generate certain letter symbols and in another game to generate dice representations.

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FIG. 2

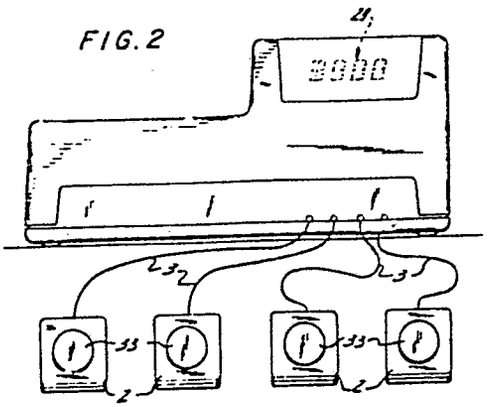
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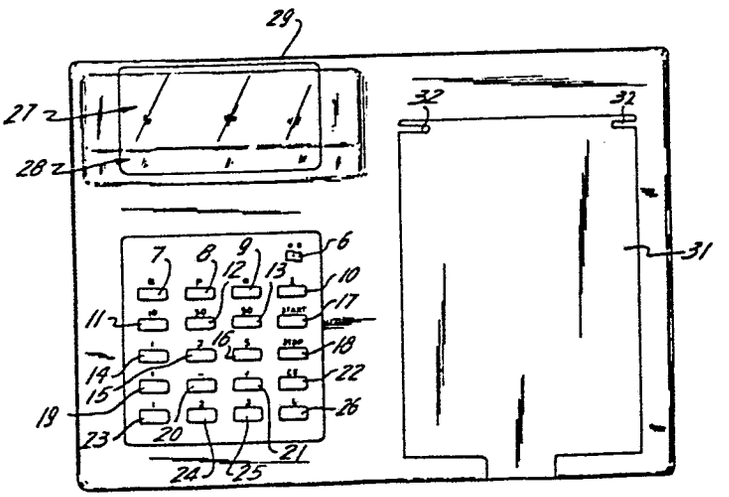
FIG. 4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ELECTRONIC GAME DEVICE

The invention relates to electronic game devices enabling the playing of one or more games for several players.

There are already known electronic game devices, in particular game devices making use of programmed microprocessors, which offer the possibility of various games for several players, when used in combination with a television receiving set.

Such necessity to use external "video-" means does however constitute a considerable drawback for said known devices, both with respect to the overall investment involved, and to their ease and independence of operation.

This invention seeks to provide electronic game devices which are independent of external "video-" means and can be operated without further equipment, and can thereby provide a considerable scope of entertaining possibilities.

To this end the invention provides new electronic game devices with programmed microprocessor(s), which comprise one central unit, provided with manually operable means for governing operation of the device, and with digital display means, for displaying information in connection with said performance; and a plurality of remote units provided with control means for effecting human intervention in operation of the game device by which players can participate in the

game being played.

In one aspect the new electronic game devices in accordance with the invention are based on at least one programmed microprocessor and are characterized by comprising

a central unit provided with manually operable means for the input of instructions and/or information to the central unit, to thereby effect selection of one of several games possible with the device and/or selection among possible playing conditions for a game, the unit also being provided with digital display means for displaying information in connection with the game being played; and

a plurality of remote units, connected or connectable to said central unit, each provided with at least one manually operable control by operation of which a player can participate in the game being played;

the game device being arranged to display a plurality of categories of information on the said or other digital display means, including information relating to scoring points associated with steps in play of the game and/or accumulated scoring point totals associated with each remote unit.

The manually operable means for the input of instructions and/or information to the central unit may enable selection of a game and the preselection of playing conditions for the selected game, and also

cause progress of a game from one step in play of the game to the next.

The device may be arranged to display on the digital display means of the central unit, at different times, information in each of the following categories

- information relating to playing conditions preselected through the central unit for the particular game selected;
- playing instructions for, and/or information about, progress of the game, and/or information forming at least part of a turn of play in the game; and
- the said information relating to scoring.

The said information forming at least part of a turn of play may be a randomly generated display of information, displayed upon operation of a remote unit's control by a player.

Such electronic game devices in accordance with the invention can provide a great diversity of playing possibilities owing to the application of programmed microprocessors, are independent of external display means owing to the fact that they comprise their own digital display means, and can be usable by a variable number of players by providing remote units for each of two to four, or even more players, while the central unit may be operated by one further player (play-master).

According to preferred embodiments of the electronic game devices of this invention, the digital display

means of the central unit may in particular consist of sets of 7-segment display cells with or without decimal points.

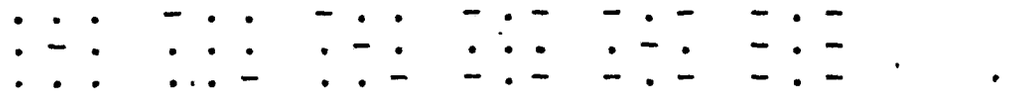
According to one embodiment of the invention such electronic game device may have its programmed microprocessor system adapted to generate letter symbols on the digital display means of the central unit.

It may in particular be adapted to generate letter symbols selected from the symbols:

A, b, C, d, E, F, G, H, I, J, L, n, O, P, q, r, S, t, U.

According to another or to a further embodiment of the invention the programmed microprocessor system of the new electronic devices may be adapted to generate visual dice representations on the digital display of the central unit.

Said system may in particular be adapted to generate visual dice representations selected from the following symbol combinations on three 7-segment display cells:



According to further possible features of this embodiment of the invention the programmed microprocessor system may for instance be adapted to generate subsequent dice representations and to display a decimal summation of said subsequent dice representations on the digital display means of the central unit or to generate subsequent dice representations and to display a predetermined scoring

quotation for each generated dice representation sequence, on the digital display means of the central unit.

In another or further embodiment of the electronic game device of the invention the programmed microprocessor system may be adapted to generate random symbol combinations on the digital display means of the central unit.

These random symbol combinations may in particular be selected from combinations of the composing elements of 7-segment display cells, with or without decimal points.

According to further possible features of the invention, the programmed microprocessor system of the electronic game devices may also be adapted to display predetermined scoring point quotations for each generated symbol combination, on the digital display means of the central unit.

The programmed system may thereby further be adapted to effect the summation of individual scoring point quotations.

Still further possible features of the invention provide that the programmed microprocessor system of the electronic game devices may be adapted to generate a dynamic symbol representation on the digital display means of the central unit.

Such dynamic symbol representation may consist of

stripe symbols of the digital display means, appearing on said display according to a programmed sequental and rhythmic order.

It may increase the attractive value of the play, by filling the dead times between two operations or outcomes of a game.

According to one other embodiment of an electronic game device of the invention, its central unit may further comprise sound generation means, whereby the programmed microprocessor system may be adapted to generate sounds. Such sounds may in particular be generated in connection with any operation instructed through the central or remote units and may also be generated as dynamic sound sequences, consisting of tones emitted according to a programmed sequental and rhythmic order, also in order to increase the attractive value of the game device.

According to another preferred embodiment of the electronic game devices, the central unit is adapted to perform a scoring point selection and scoring point totalizing for each player, and each remote unit is adapted to be used by a player to claim the selected scoring points.

According to a specific preferred feature of the invention, the electronic game devices may further be adapted to perform the monitoring of a playing time period whereby the performance of the remote units is subjected to said playing time.period.

In a still further preferred embodiment of the invention the central unit may in particular be adapted to perform the random generation of symbols or symbol combinations for the digital display means thereof, whereby either the central unit or each of the remote units are adapted to effect the displaying of a random generated symbol or symbol combination on the digital display means.

According to another possible feature of the invention the central unit may further be adapted to monitor a working sequence for the remote units.

Thus the electronic game devices according to the invention may in particular have their central units adapted to sequentially enable one remote unit to effect the displaying of a random generated symbol, symbol combination of symbol combination sequence.

According to another embodiment of the invention the central unit of the electronic game device may further be adapted to monitor and perform a scoring point totalizing and displaying in connection with each remote unit.

EXAMPLE AND FIGURES

A purely illustrative example of a preferred electronic game device embodying the invention will now be described with reference to the attached drawings.

In these drawings:

Figure 1 is a front view of a preferred embodiment of a game device;

Figure 2 is a back view of the game device according to figure 1, showing four remote control panels connected to said device;

Figure 3 is a side view of the game device according to figure 1;

Figure 4 is a top plan view of the game device according to figure 1;

Figure 5 is the functional flow sheet of the game device as shown in figures 1 to 4;

Figure 6 shows the digital display form of the letter symbol (fig. 6 A) and dice symbol (fig. 6 B) representations made possible with the game device according to figures 1 to 4.

The preferred embodiment of an electronic game device as illustrated in figures 1 to 6, has one central control panel 1 and four remote controls 2 (see figure 2) connected

to the central control panel 1 through cables 3.

The central control panel 1 is provided with a power source such as a connection 4 to the domestic electricity distribution and/or a incorporated dry cell equipment (not shown), and comprises a programmed microprocessor system, such as in particular a so-called one-chip micro computer (not shown), which is executed in such manner that it is able to conduct and perform a number of game operations and functions as hereinafter described.

Said central control panel 1 further comprises a keyboard 5 with the following control and selection means :

a "on/off" switch 6 to establish the power circuit of the device ;

a set of selection key buttons for selecting a specific game from those allowed by the device, i.e. a key button 7 for selecting a "quizz"-type game (Q), a key button 8 for selecting a letter game (P), a key button 9 for selecting a dice game (D) and a key button 10 for selecting a symbol combination game (Ξ);

a set of three keyboard push buttons 11, 12 and 13 for setting a playing time limit of respectively 10, 30 or 90 seconds to a selected game ;

a set of three keyboard push buttons 14, 15 and 16 for assigning respectively 1,2 or 5 scoring points to a selected game ;

a "start" pushing button 17 for starting a selected game ; a "stop" pushing button 18 for stopping a selected game ; a set of keyboard push buttons for performing scoring point registration for a selected game, consisting of a push button 19 for scoring point addition (+) a push button 20 for sooring point substraction (-), and a push button 21 for doubling the assigned scoring points, as a kind of Joker-function (J), both on the scoring point addition (+) and substraction (-) ; a correction button 22 for cancelling any wrongly keyed instruction (CE);

a set of four keyboard pushing buttons 23, 24, 25 and 26 for recalling and displaying the scoring point total assigned to one of the remote control panels 2, respectively assigned with the sequence numeral (1), (2), (3) and (4).

The central control panel 1 further comprises digital display means 27, which in particular consist of one set of four 7-segment display cells 28 directed towards the keyboard side of the central control panel, and one set of four 7-segment display cells 29 directed towards that side of the central control panel to which the remote control panels 2 are connected. The outside display cells 29 are preferably of a larger size than the inside display cells 28.

The central control panel 1 furthermore comprises a sound equipment, with a sound source such as a loudspeaker (not shown).

The body of the central control panel 1 is finally also shaped in such manner that it comprises a compartiment 31 for putting a pile of cards (not shown) which may contain instructions in connection with the"quizz-type" game or the letter game of the device.

Said body of the central control panel thereby also comprises a slit 32 for setting upright one such instruction card, for the duration of one game turn.

Each remote control panel 2 comprises one pushing button 33 for performing player control to a selected game operation. Such player control consists in particular in stopping the performance of a function controlled by the central control panel (such as time control or random symbol generation).

The electronic game device according to the invention may of course comprise numerous other features instead of or in addition to those specifically described hereabove in connection with one purely illustrative example of the preferred embodiments of the invention ; the central control panel may thus for instance comprise further control and selection means so as to perform further monitoring and playing functions.

The performance of the presently examplified embodiment of an electronic game device in accordance with the invention will be further explained hereafter having reference to the functional flow sheet of attached figure

5.

Upon establishing the electric contact of the device by means of the on/off switch 6, one may select one specific game among those allowed by the device, by actuating any one of the selection key buttons 7,8,9 or 10.

In the presently examplified game device one may thus select among :

a "quizz"-type game (Q),

a letter-game (P),

a dice-game (D)

and a symbol combination game (Ξ).

Therefor the selection key buttons 7,8,9 and 10 perform selection among specific functions made possible by the microprocessor system of the device, and in particular select between a timer function and a number of symbol generation functions.

When thus for instance selecting the "quizz"-type game, one uses the timer function of the microprocessor system.

This "quizz"-type game further involves setting a specific playing time by means of one of the time-setting pushing buttons 11, 12 and 13 and specific scoring points by means of one of the score-setting pushing buttons 14, 15 and 16, whereby each of those selected features are displayed on the display panels 28 and 29.

A specific instruction or question, to which a reply is due within the playing time is then disclosed to the players for instance by means of an instruction card (not represented) set upright in the slit 32 of the device, and the actual game is started by pushing the "start" pushing button 17 which begins running the preset playing time as displayed on the display panels.

If the play is brought to an end by a central control panel stop or by a time stop (running out of the preset playing time), the game system is reset at the initial situation, that is for resetting a new playing time period.

If the play is however brought to an end through a stop instruction from one remote control panel 2, the game system is automatically set in a situation by which the preset scoring points are assigned to that remote control, and may be added (+) to or substracted (-) from the scoring point total assigned to that remote control.

Depending whether the scoring points are added to the scoring total, which means that the considered player won the game turn, or are substracted from the scoring total, which means that the considered player lost the game turn, the game system is reset at the initial situtation or at a point where the game goes on with the remaining players.

When for instance selecting the letter-game of the examplified device, one uses the symbol generation function of the microprocessor system, more particularly such part of said system which is able to generate random letter symbols selected from the symbols represented at figure 6A of the attached drawings.

The letter-game further involves setting specific scoring points by means of one of the score setting pushing buttons 14,15 and 16 which is at the same time displayed on the display panels 28 and 29.

A specific instruction or question in connection with the random letter symbol that is to be generated and displayed on the display panel is then disclosed to the players, for instance by means of an instruction card (not represented), set upright in the slit 32 of the device, and the actual game is started by pushing the "start" button 17 which brings into action the letter symbol generation function of the microprocessor system.

During the symbol scanning by said mircroprocessor system, a dynamic symbol representation, as defined hereabove is displayed on the display panels 28 and 29 and dynamic sound sequences are produced through the sound source.

The symbol scanning is stopped by pushing the central panel stop button 18, which automatically displays a random letter symbol on the display panels 28 and 29.

The remote control panels 2 may then be operated to claim the preset scoring points for answering the instruction

or question raised in connection with the displayed letter symbol, which automatically sets the game system in a situation in which said preset scoring points are assigned to the remote control that has been operated, and may be added (+) to or substracted (-) from the scoring points total assigned to that remote control.

Depending whether the scoring points are added to the scoring total, which means that the considered player won the game turn, or are substracted from the scoring total, which means that the considered player lost the game turn, the game system is automatically reset at the initial situation or at a point where the game goes on with the remaining players.

When for instance selecting the dice-game of the examplified device, one uses the symbol generation function of the microprocessor system, more particularly such part of said system which is able to generate random symbol combination, consisting of dice representations selected from the symbol combinations represented at figure 6 B. of the attached drawings.

Selecting the dice game further also automatically involves the use of such part of the microprocessor system which monitors a sequential enabling of the remote control panels 2, whereby the sequence numeral assigned to an enabled remote control panel can be displayed on the display panels 28 and 29.

Upon enabling one remote control panel 2 the game device automatically starts the dice representation generation function of the microprocessor system, whereby during this dice representation scanning a dynamic symbol representation, as already defined, is displayed on the display panels 28 and 29 and dynamic sound sequences are produced through the sound source.

The dice representation scanning is stopped by pushing the push button 33 of the enabled remote control panel 2 which automatically displays a random dice representation on the display panels 28 and 29.

The electronic game device may then directly switch to enable the following remote control panel 2 of the sequence, or the electronic game device may first enable the same remote control panel 2 to have another dice representation, or other dice representations, displayed, before having a predetermined scoring quotation for the displayed subsequent dice representations, monitored through an internal score quotation memory, displayed on the display panels 28 and 29.

The electronic game device may thereby also have a decimal summation of the subsequent dice symbols displayed on the display panels 28 and 29 and then swith to enabling the next remote control panel, or the device may have quotations assigned to the displayed dice representation combinations or sequences, and have said quotations stored in a scoring memory, whereby such stored quotations may be totalized to the individual scoring total assigned to each remote control panel 2, according to predetermined rules also stored in said scoring memory, before the device switches to enable the next remote control panel 2.

When for instance selecting the symbol combination game of the examplified device, one uses the symbol generation function of the microprocessor system, more particularly such part of said system which is able to generate random symbol combinations selected from combinations of blancs and horizontal and vertical stripes determining the digital display means.

Selecting the symbol combination game further also automatically involves the use of that part of the microprocessor system which monitors the sequential enabling of the remote control panels 2 as set forth hereabove in connection with the dice-game.

Upon enabling one remote control panel the game device automatically starts the random symbol generation

function of the microprocessor system, whereby during this random symbol scanning a dynamic symbol representation, as defined hereabove, is displayed on the display panels 28 and 29 and dynamic sound sequences are produced through the sound source.

The random symbol scanning is stopped by pushing the push stop button 33 of the enabled remote control panel 2 which automatically displays a random symbol combination on the display panels.

This displayed random symbol combination is then automatically assigned with a predetermined scoring quotation, through the internal score quotation memory of the device, which score is displayed on the display panels 28 and 29, and totalized into the individual scoring total assigned to the enabled control panel 2.

This scoring total is also displayed on the display panels 28 and 29, whereafter the game device switches to enable the next remote control panel 2 of the sequence.

It must be clear that the invention is by no means limited to the features described hereabove in connection with one specific example of a preferred embodiment of an electronic game device in accordance with said invention and that many different embodiments of the invention are possible.

CLAIMS

1. Electronic game device based on at least one programmed microprocessor, characterized in that it comprises

a central unit provided with manually operable means for the input of instructions and/or information to the central unit, to thereby effect selection of one of several games possible with the device and/or selection among possible playing conditions for a game, the unit also being provided with digital display means for displaying information in connection with the game being played; and

a plurality of remote units, connected or connectable to said central unit, each provided with at least one manually operable control by operation of which a player can participate in the game being played;

the game device being arranged to display a plurality of categories of information on the said or other digital display means, including information relating to scoring points associated with steps in play of the game and/or accumulated scoring point totals associated with each remote unit.

2. Electronic game device according to claim 1 characterized in that the digital display means of the central unit consists of a set of 7-segment display cells, with or without decimal point.

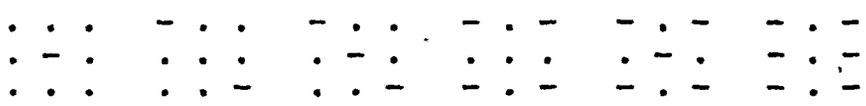
3. Electronic game device according to claim 1 or claim 2 characterized in that the programmed microprocessor is adapted to generate letter symbols on the digital display means of the central control panel.

4. Electronic game device according to any preceding claim characterized in that the programmed microprocessor is adapted to generate letter symbols selected from the symbols:

A, b, C, d, E, F, G, H, I, J, L, n, O, P, q, r, S, t, U.

5. Electronic game device according to any proceding claim, characterized in that the programmed microprocessor is adapted to generate visual dice representations on the digital display means of the central control panel.

6. Electronic game device according to any preceding claim, characterized in that the programmed microprocessor is adapted to generate visual dice representations selected from the following symbol combinations, on three 7-segment display cells:



7. Electronic game device according to any preceding claim, characterized in that the programmed microprocessor system is adapted to generate random symbol combinations on the digital display means of the central unit, said combinations being selected from combinations of the composing elements of 7-segment display cells with or without decimal points.

8. Electronic game device according to any preceding claim, characterized in that the programmed microprocessor is adapted to generate symbol combinations and/or sequences of symbol combinations, and to display predetermined score quotations for each generated symbol combination or sequence of symbol combinations.

9. Electronic game device according to any proceding claim, characterized in that the programmed microprocessor is adapted to store in memory individual quotations and/or scoring points for at least two players, and to carry out summation of such individual quotations and/or scoring points for each player.

10. Electronic game device according to any preceding claim, characterized in that the programmed microprocessor is adapted to generate a dynamic symbol representation on the display means of the central unit.

11. Electronic game device according to any preceding claim, characterized in that the central unit further comprises sound means and the programmed microprocessor is adapted to generate dynamic sound sequences.

12. Electronic game device according to any preceding claim, characterized in that the central unit is adapted to perform a scoring point selection and scoring point totalizing for each player, and each remote unit is adapted to claim selected scoring points.

13. Electronic game device according to any preceding claim, characterized in that the central unit is adapted to perform the monitoring of a playing time period whereby the performance of a remote unit is subjected to said playing time period.

14. Electronic game device according to any proceding claim, characterized in that the central unit is adapted to monitor a working sequence for the remote units.

15. Electronic game device according to claim 1, characterized in that the central unit is adapted to monitor and perform a scoring point totalizing and displaying in connection with each remote unit.

FIG. 1

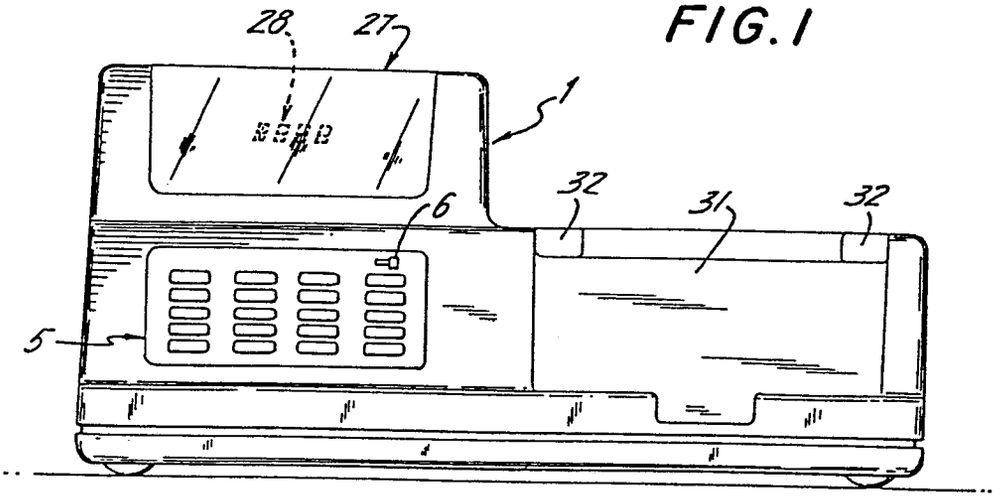


FIG. 2

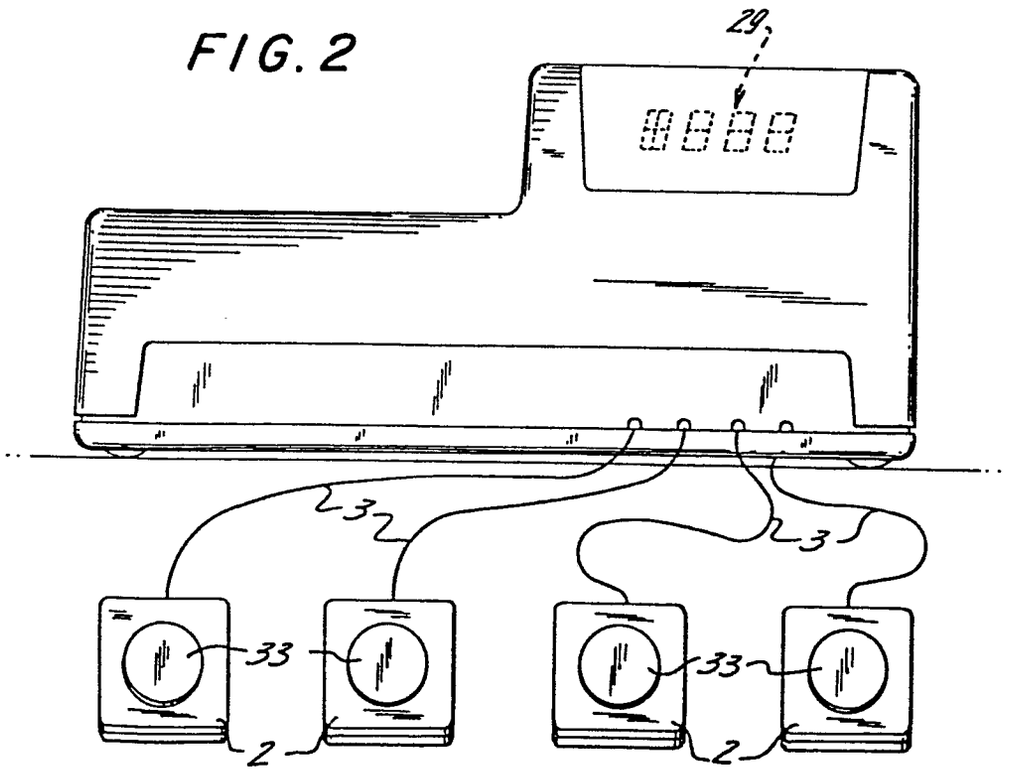


FIG. 3

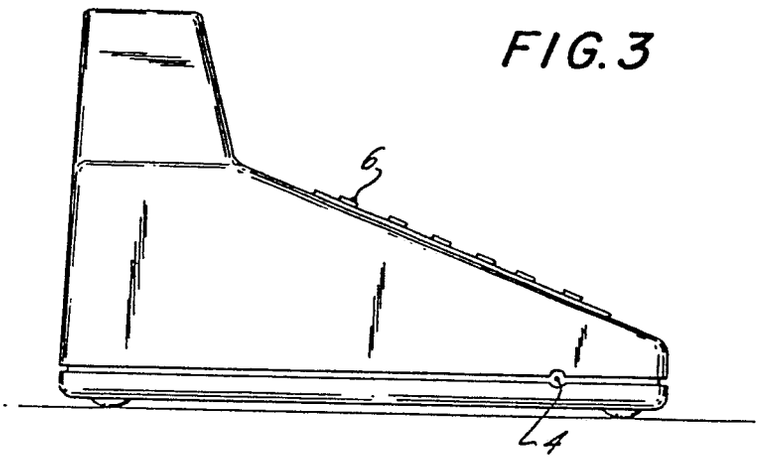

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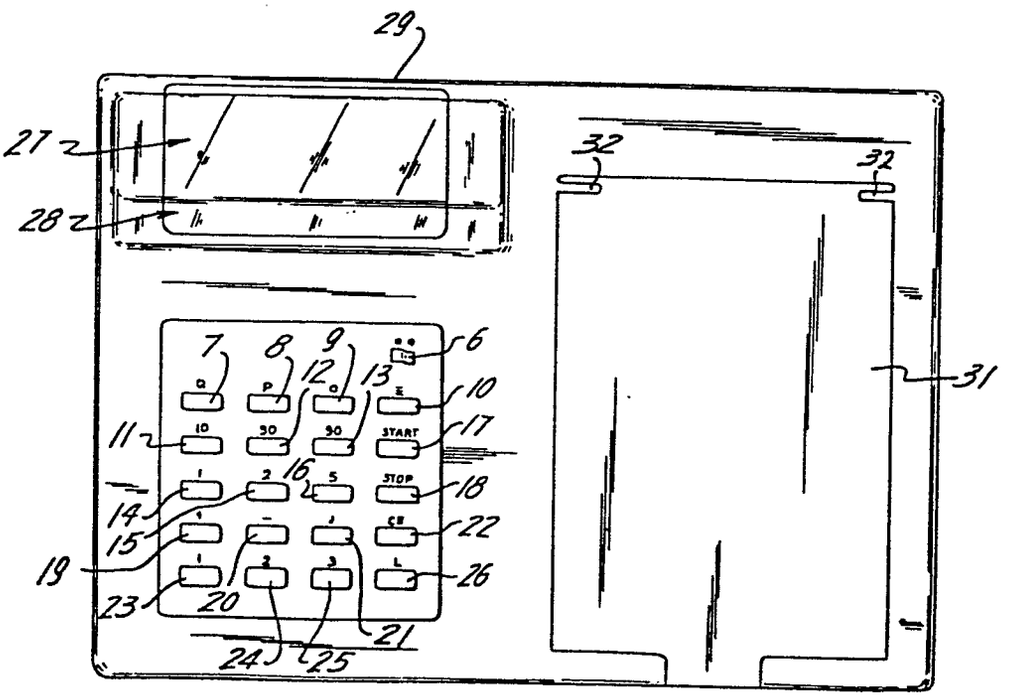
FIG. 4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START
STOP

FIG. 5

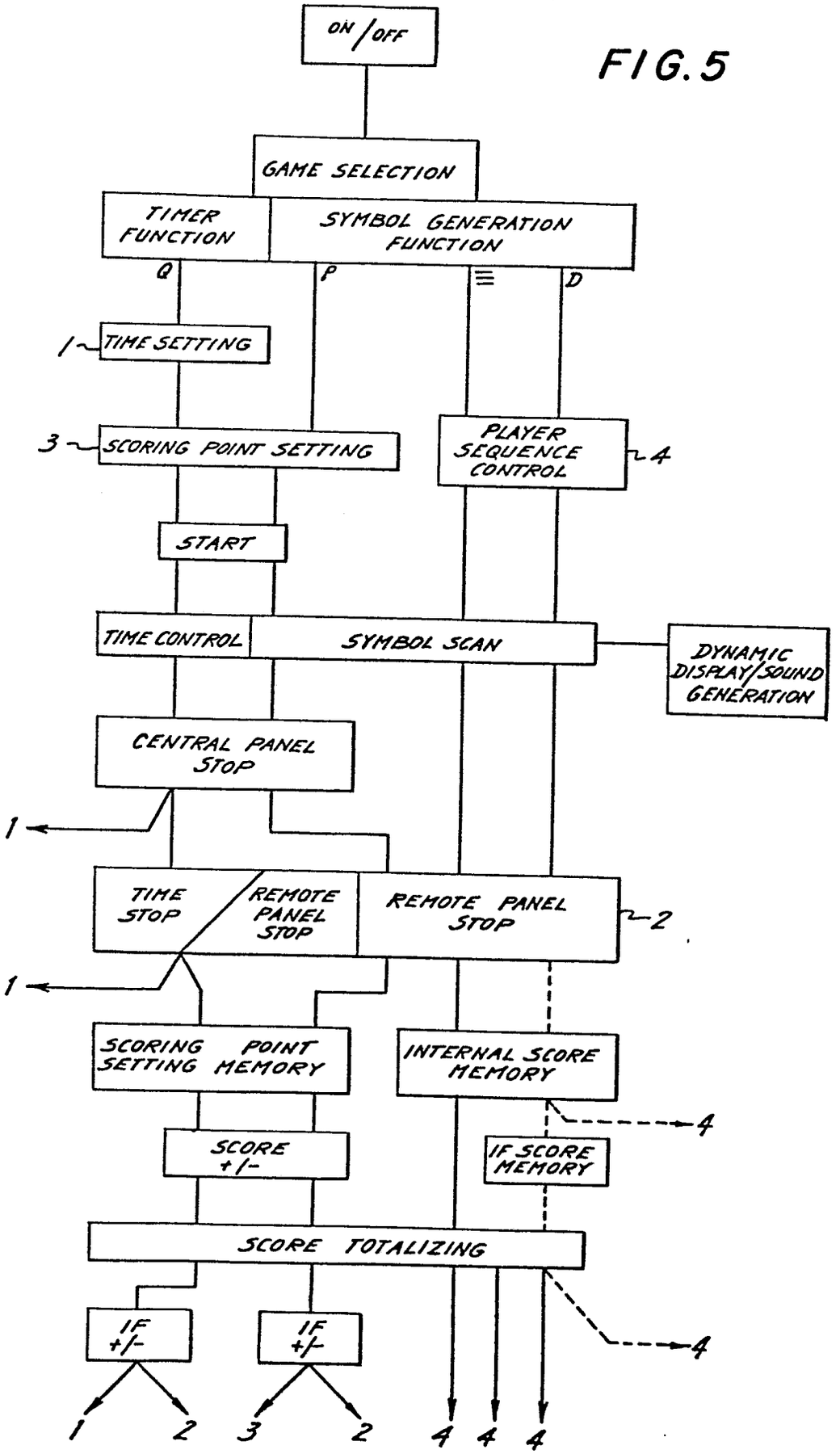
ON/OFF
GAME SELECTION
TIMER FUNCTION
SYMBOL GENERATION FUNCTION
Q
P
≡
D
1
TIME SETTING
3
SCORING POINT SETTING
PLAYER SEQUENCE CONTROL
4
START
TIME CONTROL
SYMBOL SCAN
DYNAMIC DISPLAY/SOUND GENERATION
CENTRAL PANEL STOP
1
TIME STOP
REMOTE PANEL STOP
REMOTE PANEL STOP
2
1
SCORING POINT SETTING MEMORY
INTERNAL SCORE MEMORY
4
SCORE +/-
IF SCORE MEMORY
SCORE TOTALIZING
IF +/-
IF +/-
4
1
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FIG. 6A

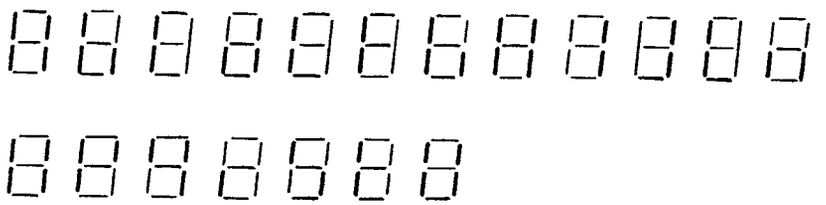
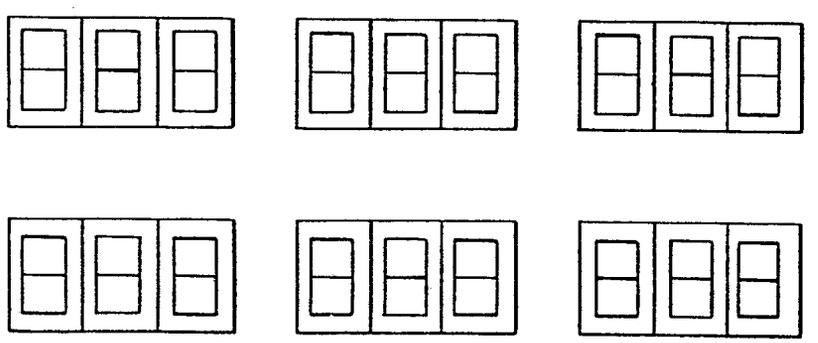


FIG. 6B



European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 79 302 426.6

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
	US - A - 3 763 577 (D.R. GOODSON) * fig. 2 *	1
	DE - A1 - 2 803 599 (CREATIVITY AND ELECTRONICS) * page 6, lines 12 to 23; pages 17 and 18; fig. *	1, 9-15
	US - A - 3 982 764 (W.L. DIEBALL) * column 1, line 63 to column 2, line 6 *	3,4
	US - A- 4 012 852 (V.M. JOURNOT et al.) * abstract *	9-14
	DE - A1 - 2 537 594 (M.R. PETERREINS) * claim 1 *	11
A	FR - A5 - 2 240 608 (F. MERFELD) * complete document *	
A	DE - A1 - 2 708 744 (P. FUCHS) * complete document *	
A	DE - A1 - 2 615 298 (M.J. BRITZGER) * page 5 below *	

CLASSIFICATION OF THE APPLICATION (Int. Cl.³)

A 63 F 9/04
A 63 F 9/18
G 06 F 15/44

TECHNICAL FIELDS SEARCHED (Int.Cl.³)

A 63 F 9/00
G 06 F 15/44
G 09 B 5/00
G 09 B 7/00

CATEGORY OF CITED DOCUMENTS

X: particularly relevant
A: technological background
O: non-written disclosure
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T: theory or principle underlying the invention
E: conflicting application
D: document cited in the application
L: citation for other reasons

&: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	22-02-1980	FUCHS

EPO Form 1503.1 06.78