Oct. 26, 1965 W. WILLIAMS 3,214,172

CHANCE SELECTIVE RACING GAME

Filed May 7, 1963 2 Sheets-Sheet 1

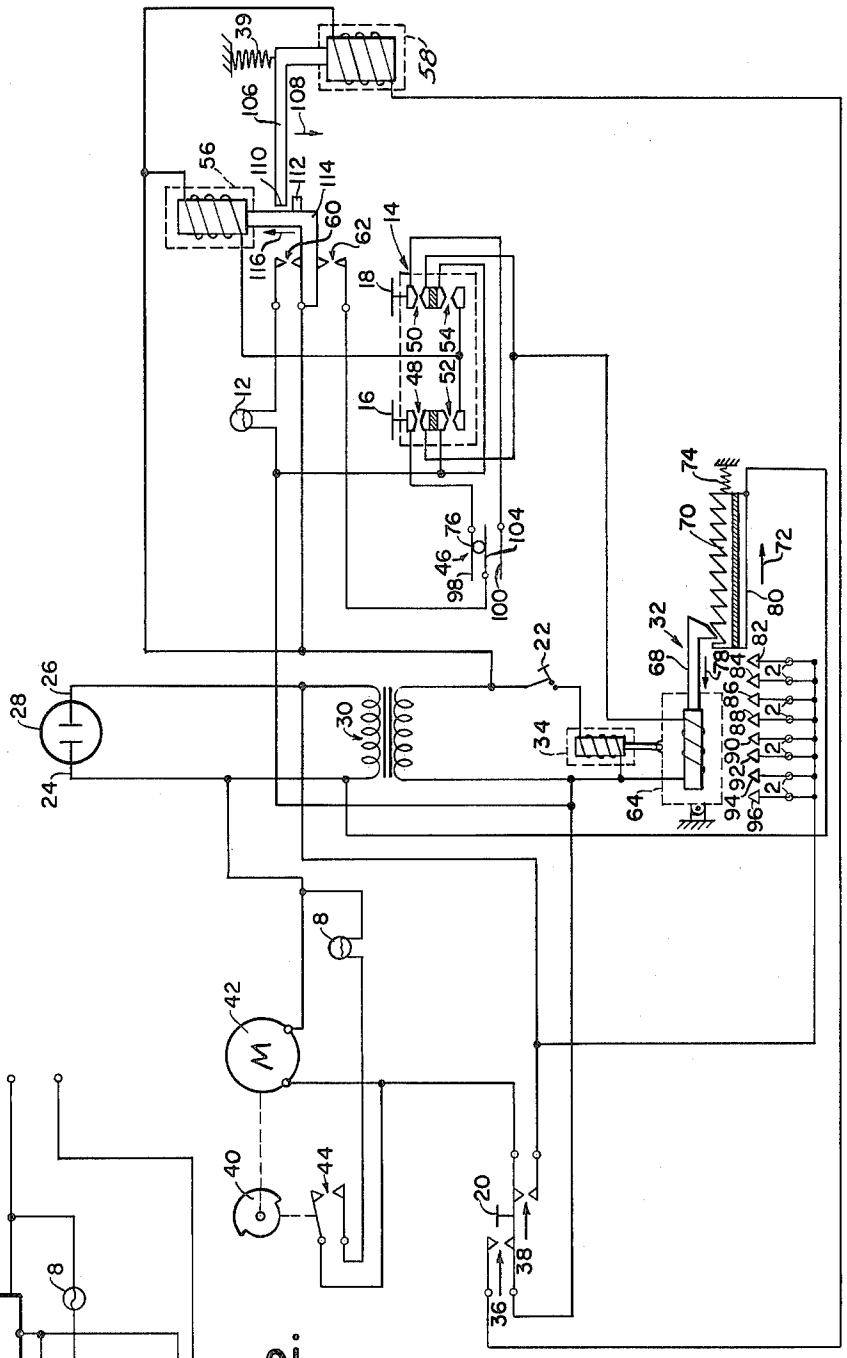

FIG. 1.

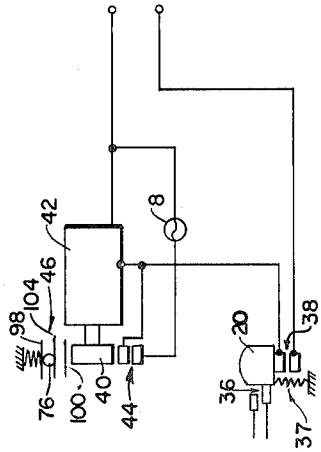

FIG. 2.

INVENTOR.
Walter Williams
BY Clive H. Bramson
ATTORNEY

Oct. 26, 1965 W. WILLIAMS 3,214,172

CHANCE SELECTIVE RACING GAME

Filed May 7, 1963 2 Sheets-Sheet 2

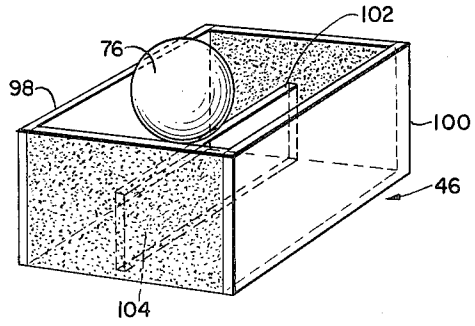


FIG.3.

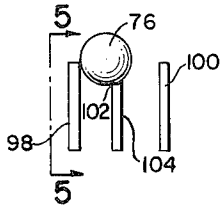


FIG.4.

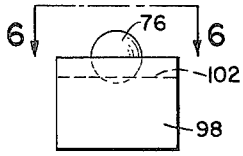


FIG.5.

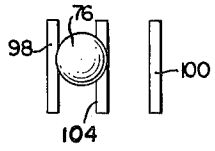


FIG.6.

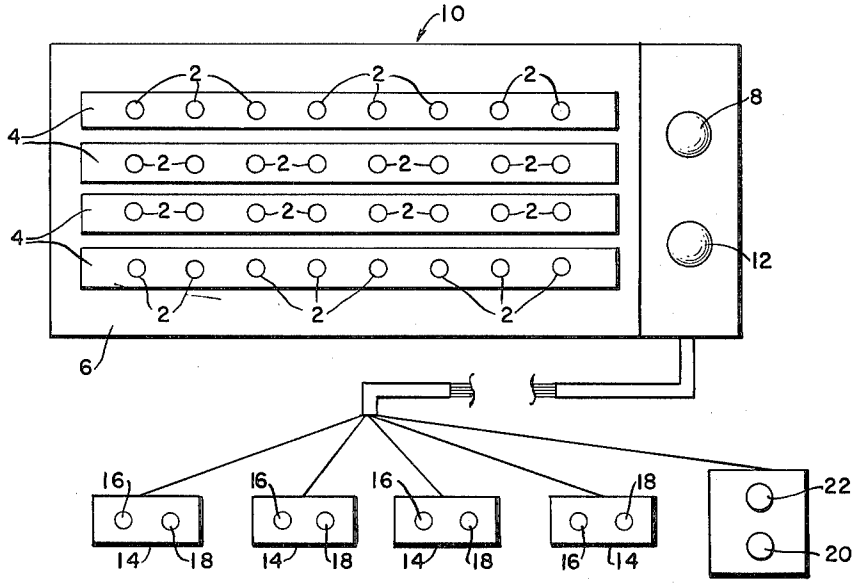


FIG.7.

INVENTOR.
Walter Williams
BY Clive H. Bramson
ATTORNEY

United States Patent Office 3,214,172 Patented Oct. 26, 1965



3,214,172

# CHANCE SELECTIVE RACING GAME

Walter Williams, 31 Southside Ave., Freeport, N.Y.

Filed May 7, 1963, Ser. No. 278,689
7 Claims. (Cl. 273—86)

This invention relates generally to amusement devices and more particularly to an electrical racing game apparatus adapted to accommodate one player if desirable or a plurality of players to the ends of amusement and competition.

Essentially, the apparatus includes individual scoring areas arranged upon a game board, each said scoring area having indicating lights or other suitable indicia controllable by switches which may or may not cause the energization of said indicia, the proper switch capable of completing the proper circuit for energizing said nidicia being variable from play to play thus introducing the element of chance to the game.

Other objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice of the invention, the same being realised and attained by means of the instrumentalities, constructions, arrangements, combinations, and improvements herein shown and described.

The accompanying drawings referred to herein and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

FIGURE 1 is a schematic wiring diagram illustrating the circuitry including the elements comprising the combination according to this inventon;

FIGURE 2 is a fragmentary view of the circuitry and a detailed illustration of the arrangement of the circuit selector mechanism and actuating means therefor and of the reset switch shown in normally open position;

FIGURE 3 is a perspective view of the circuit selector mechanism;

FIGURE 4 is an end view of the circuit selector mechanism;

FIGURE 5 is a side view taken along plane 5—5 of FIGURE 4;

FIGURE 6 is a top view taken along plane 6—6 of FIGURE 5; and

FIGURE 7 is a plan view of the game board and various components employed therewith made in accordance with the present invention.

Consonant with the foregoing, the primary object of the invention is to provide an electrical racing game apparatus having indicator means within each scoring area, said indicator means being capable of advancement in increments upon selection of the proper control switch by individual players.

Another object of the instant invention is the provision of means whereby the advancement of said indicator means is cumulative, a play release mechanism being additionally provided to deenergize all indicator means upon completion of a game.

A further object of the present invention is to provide a novel circuit selector mechanism to vary, in a concealed manner, the control switch button to be actuated for achievement of advancement of said indicator means.

A still further object of the present invention is the provision of an electrical game apparatus capable of being energized by conventional house current and containing suitable transformer means enabling operation of inexpensive solenoid mechanisms forming elements thereof.

Another object of the instant invention is the provision of a new and useful electrical game apparatus accomplishing the objectives noted above, which device is



of relatively simple construction, economical of manufacture, and highly reliable in operation.

It will be understood that the foregoing general objectives and the following detailed description as well are exemplary and explanatory but are not restrictive of the invention.

Referring now in detail to FIGURE 1, a schematic wiring diagram of the elements of the present invention, and to FIGURE 7, the playing board of the apparatus, it will be appreciated that light indicators 2 are positioned within individual scoring areas 4, said scoring areas being disposed in spaced parallel relation within surface 6 of the playing board apparatus designated generally by numeral 10. Further observed by reference to FIGURE 7 of the drawings are the cooperative relationship among circuit selector and complete play indicators 8 and 12, respectively, individual control switches 14, contact point buttons 16, 18, reset button 20 and play release button 22, these elements being designated in FIGURE 1 by like characters throughout and being operative in the manner described hereinbelow following.

As aforementioned, light indicators 2 disposed linearly of the individual scoring areas 4, are successively and cumulatively energizable by the players upon selection of the proper button 16 or 18 exposed surfacedly of control switch 14. The first player to succeed in energizing all indicator lights in his respective scoring area is declared the winner.

With reference again to FIGURE 1, the preferred circuitry of the present invention is seen to include power source leads 24, 26 extending from outlet plug 28, voltage reducing transformer 30, progressive light indicator energizing mechanism 32, play release solenoid 34, said button 22 for energizing said play release solenoid, said indicator lights 2, said reset button 20, pairs of contact points 36 and 38 activatable by said reset button, cam 40, electric motor 42 drivingly associated with said cam (see FIGURE 2), contact points 44 activatable by said cam, said circuit selector indicator light 8, circuit selector mechanism 46, said control switch 14, contact points 48, 50, 52 and 54 activatable by said contact point buttons 16 and 18, circuit breaking solenoid 56, circuit closing solenoid 58, contact points 60 and 62 and said complete play light indicator 12.

In operation, depression of play release button 22 will actuate play release solenoid 34 to thus lift solenoid 64 of mechanism 32, thereby disengaging armature pawl 68 and contact ratchet 70, the latter being biased in the direction of arrow 72 by the resilient force of tension spring 74. Said conductor strip 80 is retained in contact with contactors 82, 84, 86, 88, 90, 92, 94 and 96 to cumulatively illuminate scores by well known means. Release of ratchet 70 will therefore disconnect conductor strip 80 with any of contactors 82, 84, 86, 88, 90, 94 and 96 theretofore connected therewith.

To commence playing a game subsequent to activation of the play release solenoid, button 20 is depressed thus energizing motor 42 to cause vibration of circuit selector mechanism 46 by cam 40, drivingly associated with said motor. By dint of said vibration, contact ball 76 of said mechanism will be caused to shift between conductor walls 98 and 100 while teetering upon edge 102 of conductor wall 104 disposed centrally therebetween as shown in detail in FIGURES 3–6 of the drawings. The action of cam 40 will further effectuate oscillation of contact points 44 to cause flickering of circuit selector indicator light 8, said flickering being indicative that the game apparatus is being activated for the next play to be made. Release of reset button 20 will cause momentary closure of contact points 36 due to release of energy of compression spring 37, and temporary energization of circuit

closing solenoid 58 whereupon armature 106 thereof will be caused to move in the direction of arrow 108, end 110 of said armature acting downwardly against projection 112 of armature 114 causing closure of contact points 62. Upon restoration of button 20 to the normal position shown in FIGURES 1 and 2, contact points 36, 38 will be in open position and spring 39 will move armature 106 away from projection 112. Simultaneously with such occurrence, circuit selector indicator light 8, and motor 42 will be deenergized, circuit selector mechanism 46 thereby ceasing to vibrate. Accordingly, contact ball 76 will have assumed a resting position causing contact between either conductor walls 98 and 104 or between conductor walls 100 and 104, either of the alternate circuits passing between contact points 48 or 50 being completed.

It will, then, be observed that depression of contact button 16, which results in closure of contact points 48, will energize solenoid 64 inasmuch as the circuit between conductor walls 98 and 104 is completed, contact ball 76 being interposed continuously therebetween as shown in FIGURE 1. In accordance with the foregoing it will be appreciated that the circuit completed by said circuit selector mechanism 46 is non-predetermined, the final position of said contact ball 76 for each play or depression of reset button 20 being one of chance, the possibility rate of alternate positions assumable thereby being 50 percent one or 50 percent the other. Depression, therefore, of contact button 16 will, therefore, cause energization of solenoid 64 with consequent movement of armature 68 in the direction of arrow 78, carrying ratchet 70 therewith, contact between conductor strip 80 and contactor 82 being accomplished to thus cause energization of light 2 connected to said contactor 82.

The act of depressing contact button 16 will further close contact points 52 to thus energize circuit breaking solenoid 56 to move armature 114 in the direction of arrow 116 to thus open contact points 62 and close contact points 60. It will accordingly be apparent that with contact points 62 open, subsequent depression of contact point button 16 will not cause further energization of solenoid 64. Upon closure of contact points 60, complete play indicator light 12 will be energized indicating the termination of that play.

It will be further noted that depression of button 18, although failing to energize solenoid 64, will energize circuit breaking solenoid 56 by reason of closure of contact points 54, thereby precluding further play by depression of button 16 thereafter. Energization of complete play indicator light 12, similarly as if button 16 were originally depressed, will be accomplished.

It will be realized that the circuit illustrated in FIGURE 1 of the drawings contemplates the utilization of one control switch 14. Obviously, however, one each control switch, circuit selector mechanism, circuit breaking solenoid and progressive light indicator energizing mechanism is required for each player involved, the circuitry required being multiples of, although typical of the circuit described and illustrated hereinabove.

Although the preferred embodiment of the device has been described, it will be understood that within the purview of this invention various changes may be made in the forms, details, proportion and arrangement of parts, the circuit selector mechanism and the indicator means in the scoring areas, e.g., being contemplated in other suitable forms, the continuation thereof and mode of operation, which generally stated consist in a device capable of carrying out the objects set forth, as disclosed and defined in the appended claims.

What is claimed is:

1. An electrical racing game apparatus comprised of a game board having at least one individual scoring area therein, a plurality of light indicators within said scoring area, a circuit including a circuit selector mechanism having alternate circuit completing positions, actuating means for non-predeterminably closing one of said alternate circuit positions of said circuit selector mechanism, a control switch including two pairs of contact points, a progressive light indicator energizing mechanism activatable by closure of a pair of said contact points in circuit with the circuit completed by said circuit selector, a circuit breaking solenoid having an armature activatable upon closure of said control switch, a circuit closing solenoid, the armature of which is engageable with the armature of said circuit breaking solenoid to thereby close the circuit including said circuit selector mechanism, a play release solenoid, reset means for simultaneously actuating said circuit selector mechanism and said circuit closing solenoid, and a circuit selector indicator light adapted to flicker during actuation of said circuit selector mechanism.

2. An electrical racing game apparatus comprised of a game board having at least one individual scoring are therein, a plurality of light indicators within said scoring area, a circuit including a circuit selector mechanism having alternate circuit completing positions, actuating means for non-pretederminably closing one of said alternate circuit positions of said circuit selector mechanism, a control switch including two pairs of contact points, a progressive light indicator energizing mechanism activatable by closure of a pair of said contact points in circuit with the circuit completed by said circuit selector, a circuit breaking solenoid having an armature activatable upon closure of said control switch, a circuit closing solenoid, the armature of which is engageable with the armature of said circuit breaking solenoid to thereby close the circuit including said circuit selector mechanism, reset means for simultaneously actuating said circuit selector mechanism and said circuit closing solenoid, and a play release solenoid, actuation thereof effectuating deenergization of said indicating lights.

3. An electrical racing game apparatus comprising in combination, a game board having at least one individual scoring area therein, indicating means within said scoring area, a circuit including a circuit selector mechanism having alternate circuit completing positions, actuating means for non-predeterminably closing one of said alternate circuit positions of said circuit selector mechanism, a control switch including two pairs of contact points, a progressive indicating means energizing mechanism activatable by closure of a pair of said contact points in circuit with the circuit completed by said circuit selector, a circuit breaking solenoid having an armature activatable upon closure of said control switch, a circuit closing solenoid, the armature of which is engageable with the armature of said circuit breaking solenoid to thereby close the circuit including said circuit selector mechanism, a play release solenoid, and reset means for simultaneously actuating said circuit selector mechanism and said circuit closing solenoid.

4. An electrical racing game apparatus according to claim 3, wherein said indicating means comprises a plurality of light bulbs within said scoring area, said light bulbs being energizable cumulatively upon actuation of said progressive indicating means energizing mechanism.

5. An electrical racing game apparatus comprised of a game board having at least one individual scoring area therein, a plurality of light indicators within said scoring area, a circuit including a circuit selector mechanism having alternate circuit completing positions, activating means for non-predeterminably closing one of said alternate circuit positions of said circuit selector mechanism, a control switch including two pairs of contact points, a progressive light indicator energizing mechanism activatable by closure of a pair of said contact points in circuit with the circuit completed by said circuit selector, a complete play light indicator activatable by said control switch, a circuit breaking solenoid having an armature activatable upon closure of said control switch, a circuit closing solenoid, the armature of which is engage-

able with the armature of said circuit breaking solenoid to thereby close the circuit including said circuit selector mechanism, a circuit selector indicator light, and reset means for simultaneously activating said circuit selector indicator light, said circuit selector mechanism and said circuit closing solenoid, said complete play indicator light being deenergized upon activation of said circuit closing solenoid.

6. An electrical racing game apparatus according to claim 5 wherein said activating means comprises a motor driven cam adapted to vibrate said circuit selector mechanism to cause completion of one of said alternate circuit positions, the circuit completed being non-predetermined.

7. An electrical racing game apparatus comprised of a game board having at least one individual scoring area therein, a plurality of light indicators within said scoring area, a circuit including a circuit selector mechanism having alternate circuit completing positions, activating means for randomly closing one of said alternate circuit positions of said circuit selector mechanism, a control switch including two contact buttons, each contact button having first and second pairs of contact points associated therewith, said pairs of contact points being successively closable upon actuation of a respective contact button, a progressive light indicator energizing mechanism activatable by closure of said first pair of contact points of the contact button in circuit with the circuit completed by said circuit selector, a complete play light indicator activatable upon actuation of either of said contact buttons, a circuit breaking solenoid having an armature activatable upon closure of said control switch, a circuit closing solenoid, the armature of which is engageable with the armature of said circuit breaking solenoid to thereby close the circuit including said circuit selector mechanism, a circuit selector indicator light, and reset means for simultaneously activating said circuit selector indicator light, said circuit selector mechanism and said circuit closing solenoid, said complete play indicator light being deenergized upon activation of said circuit closing solenoid.



**References Cited by the Examiner**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 1,707,859 | 4/29 | Johnson | 273—86 |
| 2,180,448 | 11/39 | Williams | 273—86.2 |
| 2,526,215 | 10/50 | Florimont | 273—86 |
| 2,627,411 | 2/53 | Bartlam et al. | 273—86 |
| 2,671,662 | 3/54 | Carpenter et al. | 273—86 |
| 2,693,962 | 11/54 | Stevens | 273—145 |

RICHARD C. PINKHAM, *Primary Examiner.*

DELBERT B. LOWE, *Examiner.*