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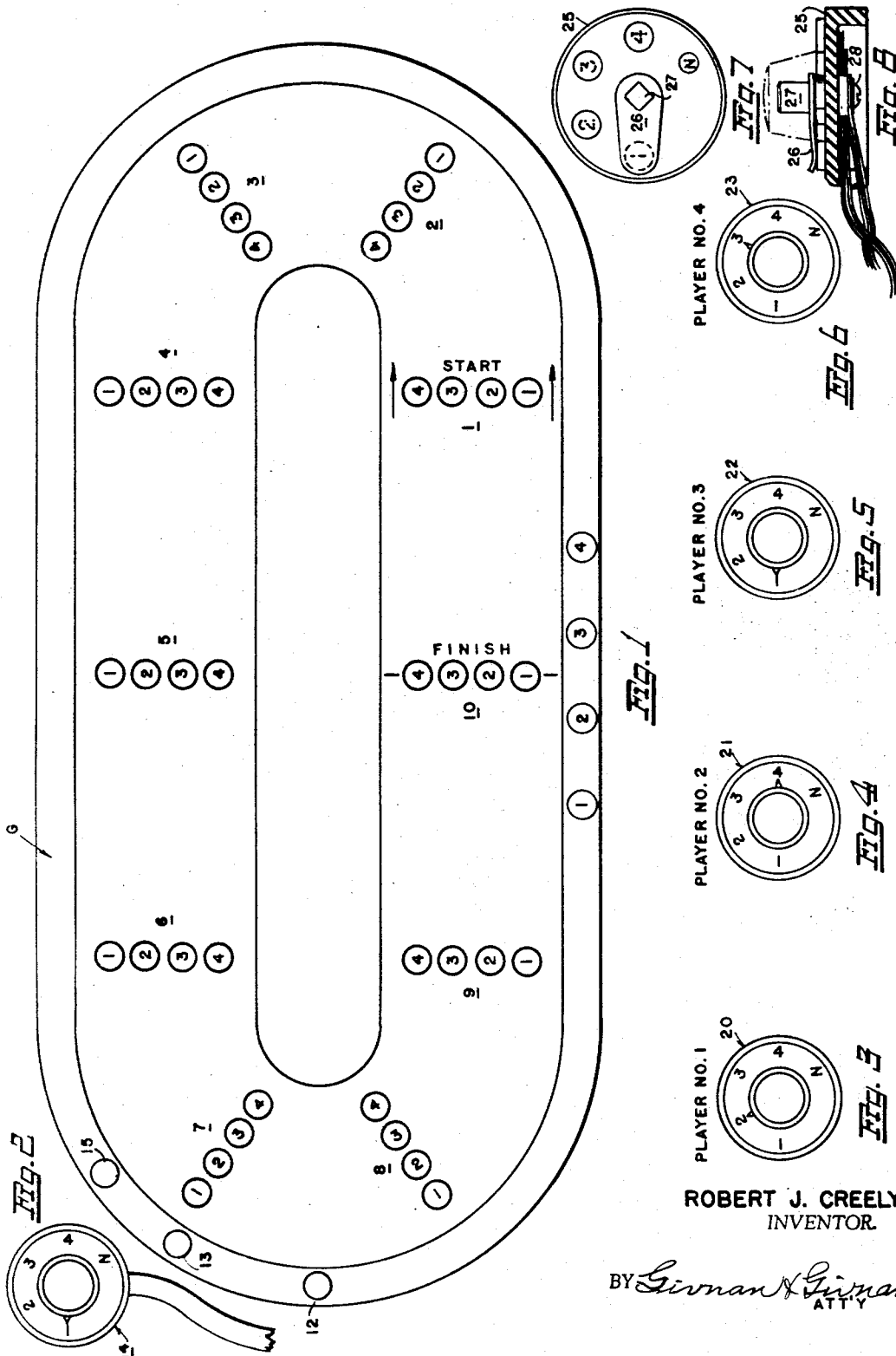
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3,417,995

CHANCE CONTROLLED ELECTRICAL RACING GAME APPARATUS

Filed Oct. 3, 1966

3 Sheets-Sheet 1



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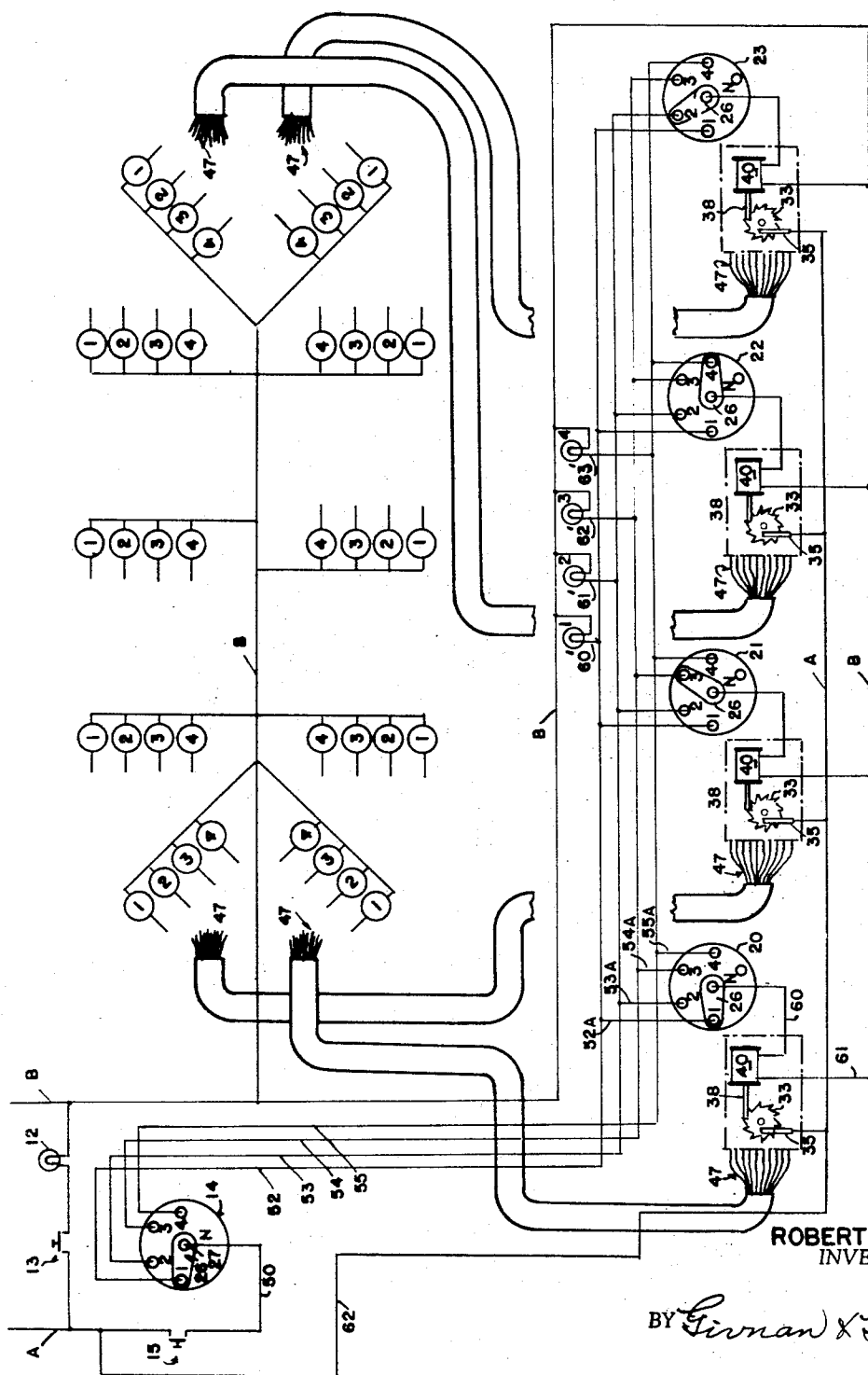
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3 Sheets-Sheet 2



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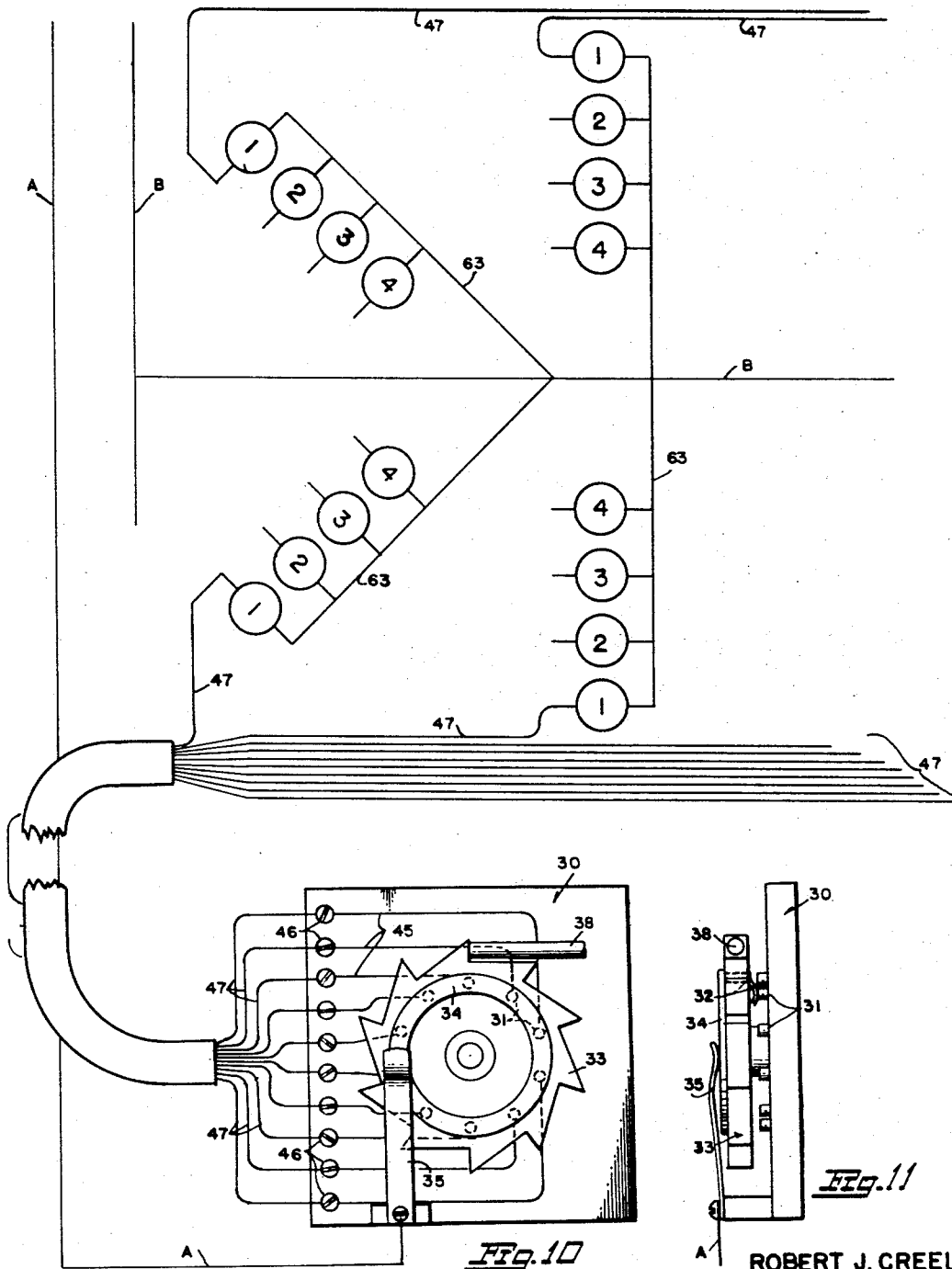
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3 Sheets-Sheet 3



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CHANCE CONTROLLED ELECTRICAL RACING GAME APPARATUS

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This invention relates generally to amusement devices and more particularly to an electrical racing game apparatus controlled by an operator of the game and adapted to accommodate a number of players to the ends of amusement and entertainment.

Essentially the apparatus includes individual scoring areas arranged upon a game board, each scoring area having indicating lights identifying the players by numerals or other suitable indicia and wherein said lights are controlled by player actuated switches which may or may not cause the energization of said indicating lights, the proper switch capable of completing the proper circuit for energizing said lights being variable from play to play by the players in an effort to match their switch settings and hence the number selected thereby with a number similarly selected by the game operator.

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 realized and attained by means of the instrumentalities, constructions, arrangements, combinations, electrical circuitry and other improvements herein shown and described, reference being had to the accompanying drawings forming a part hereof and in which:

FIGURE 1 is a top plan view of a game board made in accordance with my invention.

FIGURE 2 is a plan view of a master switch controlled by the game operator at his station in the approximate location shown relative to the game board.

FIGURES 3, 4, 5 and 6 are similar views of identical switches under control of the players of the game at points remote from the operator's station.

FIGURE 7 is a plan view on an enlarged scale typical of any of the switches shown in FIGURES 2 to 6.

FIGURE 8 is a sectional side elevational view of FIGURE 7.

FIGURE 9 is a wiring diagram wherein multiple cables are shown fragmentarily for convenience of illustration.

FIGURE 10 is an elevational view on an enlarged scale of a typical stepping switch and its electrical connections to the circuitry of the game board, and

FIGURE 11 is an end elevational view of FIGURE 10.

With continuing reference to the drawings wherein like reference characters designate like parts and particularly FIGURES 1 to 8 thereof, the game board indicated generally at G has outlined thereon the approximate layout of a racetrack such as is used for horse racing, auto racing and the like, but such representation does not necessarily prescribe any limits of utility since obviously other designs of playing fields or areas on a game board could be used.

The surface of the racecourse or playing field is provided at spaced intervals with progressive scoring areas designated by transverse rows of scoring lights. The lights in each row are numbered from 1 to 4 as shown and the rows themselves numbered from row 1 as the starting line to row 10 indicating the finish line.

Visible play-controlling lights also numbered 1, 2, 3, 4 are provided along one side line of the course and a "ready" light 12 also visible to all the players, and operable by a normally open push-button switch 13, is located at the station (FIG. 2) of the operator of the game who

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is provided with a master selector switch indicated generally at 14. Also under control of the game operator is a second normally open push-button switch 15.

Each player is provided with one of the selector switches indicated generally at 20, 21, 22 and 23 in Figures 3-6 and sometimes for convenience hereinafter referred to respectively as Player No. 1, Player No. 2, Player No. 3 and Player No. 4, as shown.

The master selector switch 14 and player switches 20-23 are all identical and, as shown in FIGURES 7-8, each comprises a base 25 of dielectric material, a pivotal switch arm 26 secured to and in electrical circuit through an actuating metal shaft 27 and a terminal 28 with the game circuitry illustrated in FIGURES 9 and 10. Arm 26 of master switch 14 is selectively in circuit, through contacts numbered 1, 2, 3, 4 fixed on base 25, with the game circuitry and with the play-controlling lights 1, 2, 3, 4 all as hereinafter more fully pointed out.

As illustrated diagrammatically in FIGURE 9, each of the player switches 20-23 is associated with any suitable conventional type of stepping switch such as that shown exemplarily in enlarged detail in FIGURES 10-11 and which includes a panel 30 of dielectric material having fixed contacts 31 secured thereto and arranged in a circle for cooperation with a movable contact 32 extending through a dielectric ratchet wheel 33 to whose front face is secured a collector ring 34 in electrical contact with a brush 35.

The ratchet wheel 33, collector ring 34 and contact 32 secured to the ring are intermittently rotated step-by-step as a unit by actuation of the armature 38 of a solenoid 40 (FIG. 9). All of the fixed contacts 31 on panel 30 are connected by wires 45 through ten binding posts 46 and wires 47 to the ten number 1 scoring lights around the track. The same electrical hook-up also applies to the other player switches and their related stepping switches and respective scoring lights around the track.

Since all of the stepping switches, player switches and respective electric circuitry, including the numbered scoring lights around the track, are identical a description of one such combination and the operation thereof will suffice for all.

In the wiring diagram shown in FIGURE 9, the supply of electrical current, through conductors A and B, is from a step-down transformer (not shown) in circuit with an outside source. The actuating shaft 27 of master switch 14 is in circuit through wire 50 and the second operator-controlled, normally open push-button switch 15 with the one side A of the current source. Contacts 1, 2, 3 and 4 of master switch 14 are in circuit through wires 52, 53, 54 and 55 and branch wires 52A, 53A, 54A and 55A with the corresponding switch contacts 1, 2, 3, 4 of the player switches 20, 21, 22 and 23 and also by branch wires 60', 61', 62' and 63' through the play-controlling lights 1, 2, 3, 4 back to the opposite side B of the current source.

In starting the game the operator selects a number from 1 to 4 on his selector switch (FIG. 9) by moving the contact arm 26 onto the corresponding contact, the number selected being concealed from the players, and then allows ample time for the players in the same manner to select on their respective selector switches the number which they think the operator has chosen. The operator then energizes the "ready" light 12 by closing the ready switch 13 by which time all selections by the players must be made. The operator then, by closing starter switch 15, completes a circuit from source line A through wire 50 and his switch arm 26. If the operator has selected number 1 then current will flow through that contact, wire 52, and play-controlling light number 1, and back to the other line B of the source. If, for example, Player No. 1 has

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selected the same number (1) on his switch by placing contact arm 26 on contact number 1, current will also flow through wire 52A, switch arm 26, wire 60, solenoid 40 and branch wire 61 to line B of the source. The resultant outward thrust of solenoid armature 38 will rotate the ratchet wheel 33 and contact 32 carried by collector ring 34 one step to the left as viewed in FIGURE 10 into engagement with one of the fixed contacts 31. Thus a circuit will be closed from line A through wire 62, brush 35 and said contacts 31-32 and the corresponding wires 45 and 47 to one side of the corresponding scoring light on the game board whose other side is connected by wire 63 to the other line B of the source. Accordingly, progressive illumination of each scoring light for a player will occur about the racecourse upon the player correctly guessing the number selected by the game operator. The same mode of operation applies to all of the other contacts on the player switches and their respective scoring lights on the game board.

The electrical system herein shown and described involves two separate circuits which differ from each other in that the master switch circuit controls only the selective illumination of the play-controlling lights 1 to 4 along the side line of the game board, and in that the circuitry of the player switches controls only actuation of the solenoids and related stepping switches through which current flows from one side of the source through wires 47 and the scoring lights around the board whose numbers correspond with the numbers available for selection on the player switches.

The first player to reach the finish line wins the race and the game can then be considered terminated if so desired or the play can be continued after the winner has withdrawn from the game by setting his switch arm on the neutral button N to thus allow the remaining players to continue on to the finish.

While I have shown a particular form of embodiment of my invention, I am aware that many minor changes therein will readily suggest themselves to others skilled in the art without departing from the spirit and scope of the invention. Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. Electrical racing game apparatus comprising a playing surface having a racecourse thereon delineated by individual paths of travel for players of the game, said paths having scoring areas therealong identified by transverse rows of numbered scoring lights with one side of said lights in electrical circuit with one side of a source of electric current,
- a master switch including a movable switch arm in circuit with the other side of said source, and a plurality of cooperating contacts numbered in accordance with the numbering of said scoring lights,
- a plurality of player switches each having a movable switch arm and numbered contacts matching those of said master switch and in circuit therethrough with said other side of said source,

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a solenoid associated with each of said player switches, said switch arm of each player switch also in circuit through its respective solenoid with said one side of said source,

- a stepping switch associated with each player switch and having a plurality of fixed contacts each in circuit through a scoring light in a different row with said one side of said source,
- each stepping switch having a contact rotatably carried thereby and cooperating with the fixed contacts thereof, said contact in circuit with said other side of said source, means responsive to energization of the corresponding solenoids for rotating said contact, whereby coincidental setting of any of said player switches in accordance with the setting of said master switch will actuate one of said stepping switches to move its rotatable contact one step to complete a circuit through one of said scoring lights.

2. Electrical racing game apparatus as claimed in claim 1 wherein said playing surface has mounted thereon conspicuous play-controlling lights selectively actuated by the selective setting of the switch arm of the master switch independently of the setting of the switch arms of the player switches.

3. Electrical racing game apparatus as claimed in claim 1 including a game starting light in circuit through a normally open operator controlled switch with both sides of said source.

4. Electrical racing game apparatus as claimed in claim 1 including a normally open game-circuit energizing switch in circuit with said current source.

5. Electrical racing game apparatus as claimed in claim 1 wherein said stepping switch includes a wheel carrying said contact and said responsive means includes an armature engaging and rotating said wheel.

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