Jan. 16, 1934. R. I. MAYORGA 1,943,685

GAME APPARATUS

Filed July 1, 1930 6 Sheets-Sheet 1

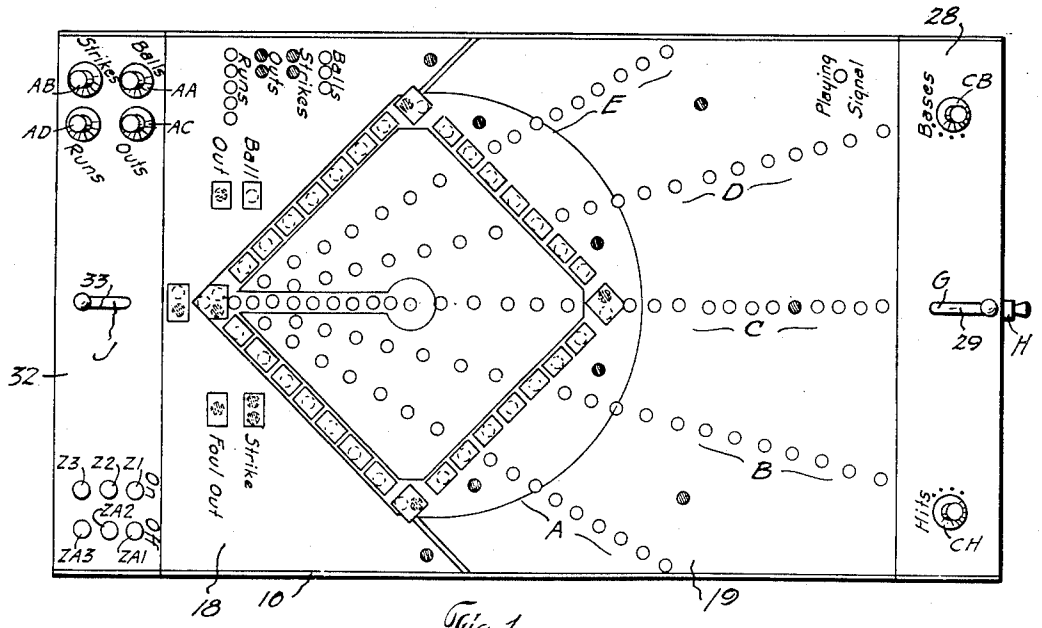


Fig. 1

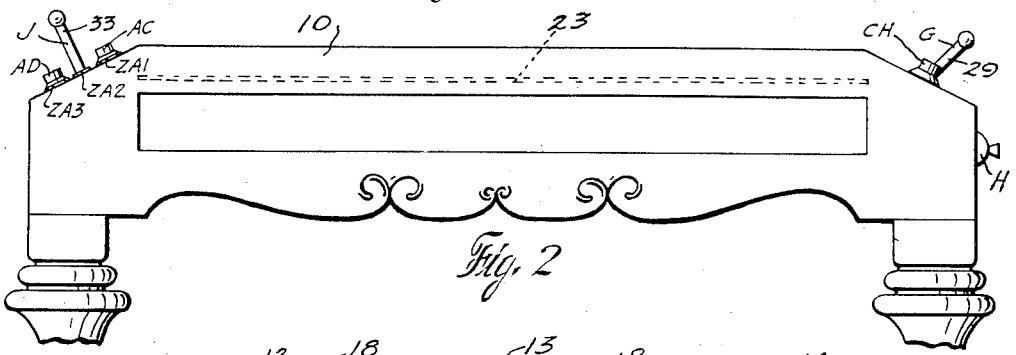


Fig. 2

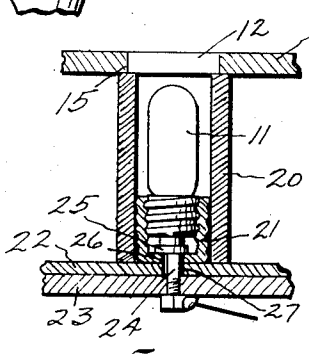


Fig. 3

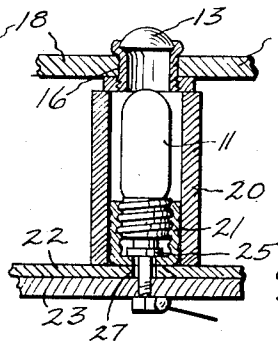


Fig. 4

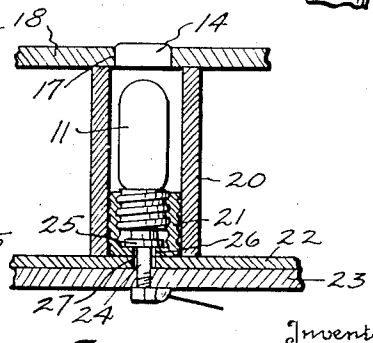


Fig. 5

Inventor

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Jan. 16, 1934. R. I. MAYORGA 1,943,685

GAME APPARATUS

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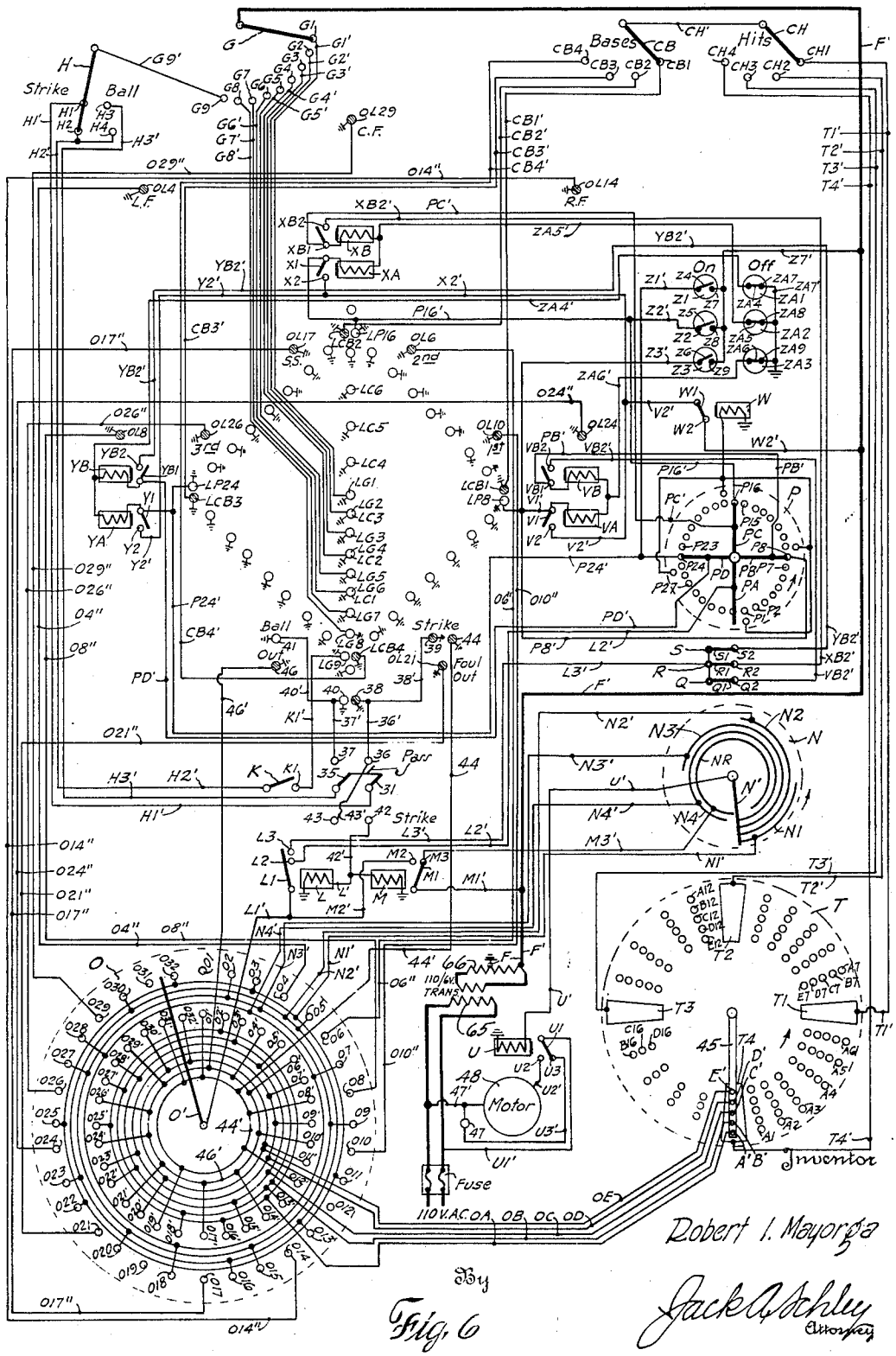


Fig. 6

Jan. 16, 1934. R. I. MAYORGA 1,943,685

GAME APPARATUS

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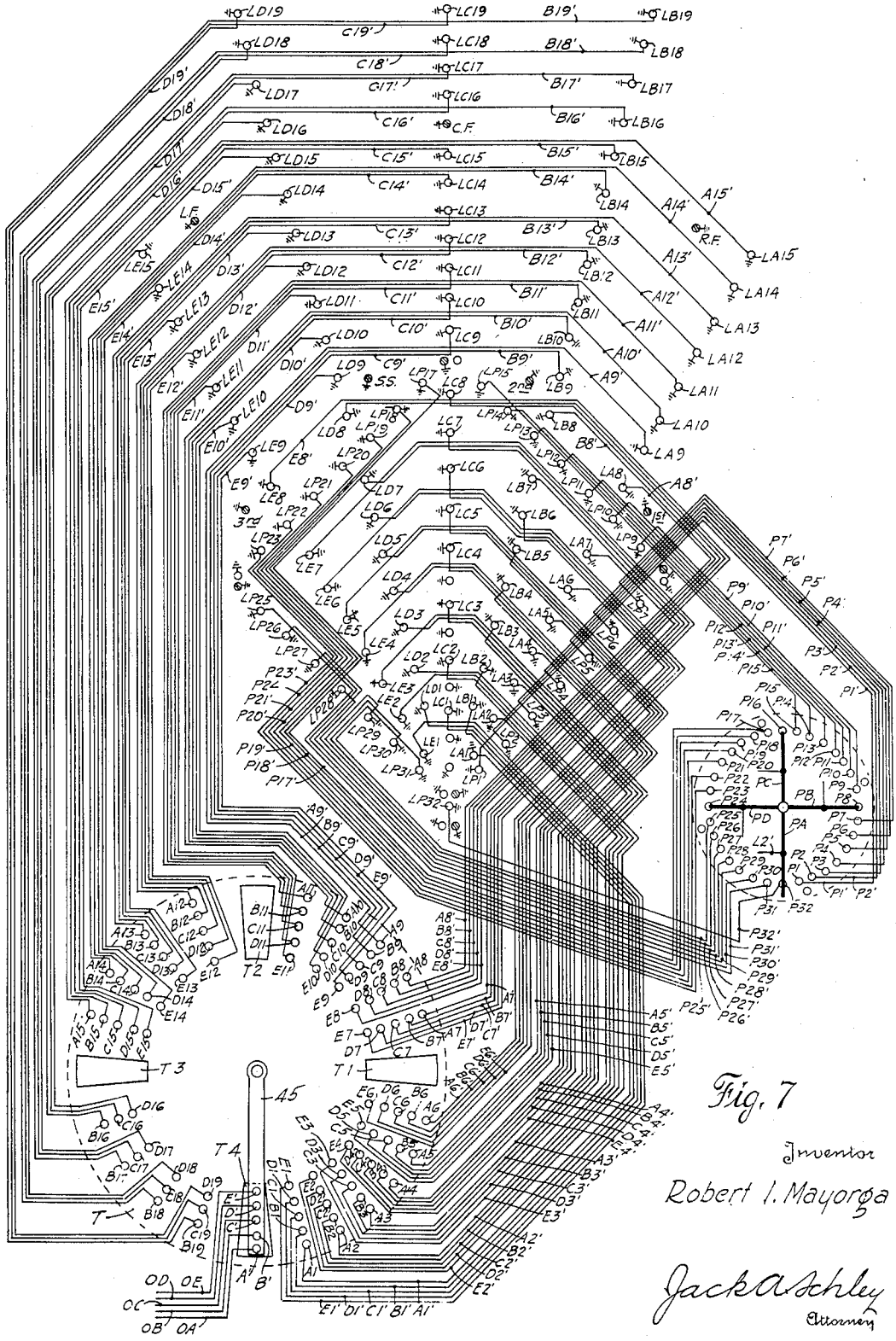


Fig. 7

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Jan. 16, 1934. R. I. MAYORGA 1,943,685

GAME APPARATUS

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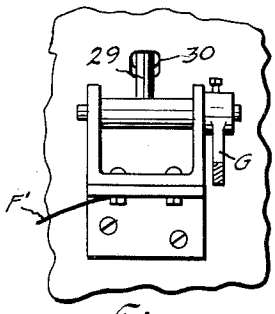


Fig. 9

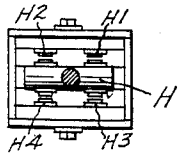


Fig. 10

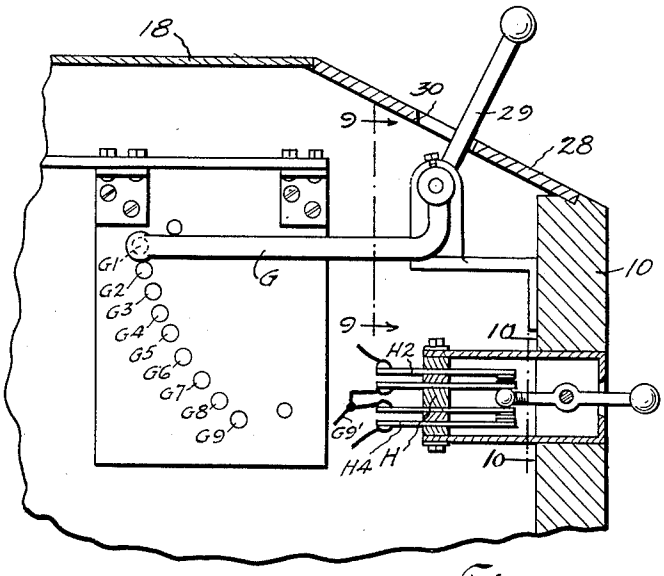


Fig. 8

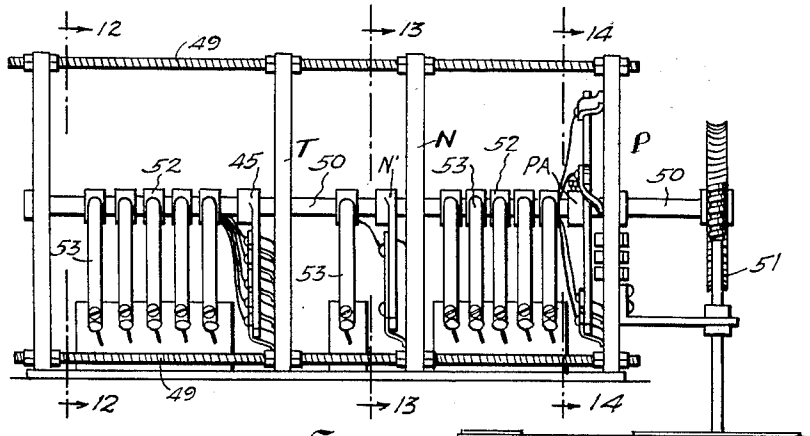


Fig. 11

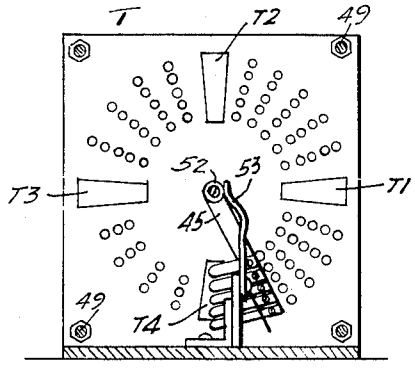


Fig. 12

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Jan. 16, 1934. R. I. MAYORGA 1,943,685

GAME APPARATUS

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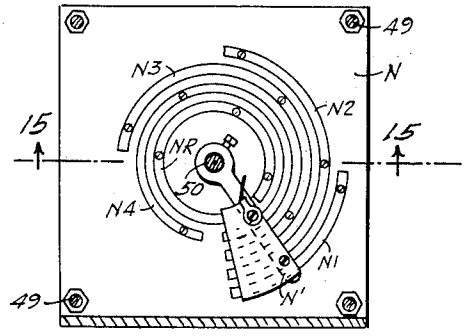


Fig. 13

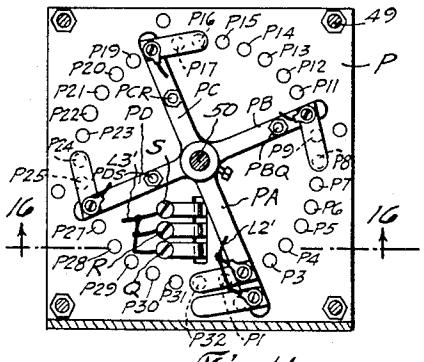


Fig. 14

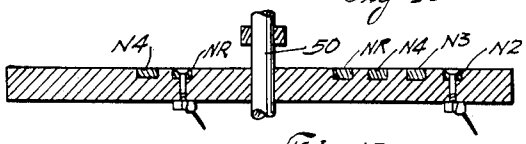


Fig. 15

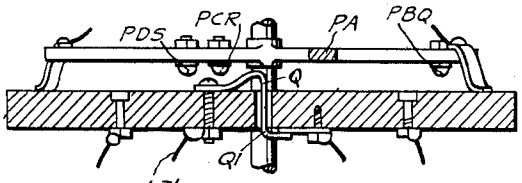


Fig. 16

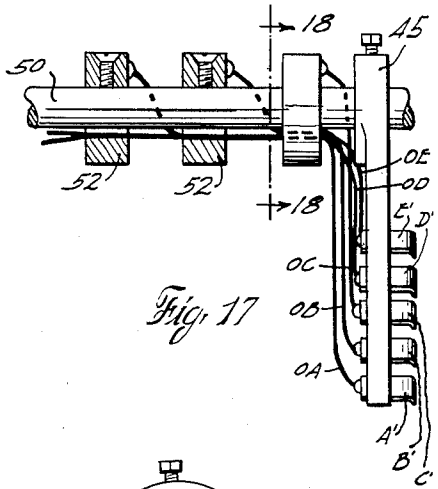


Fig. 17

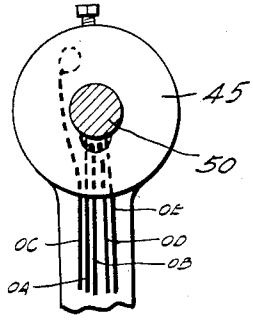


Fig. 18

Distributor Legend			
1	Strike	17	S.S. Out
2	3 Base A	18	H. Run B
3	1 Base B	19	Strike
4	L.F. Out	20	3 Base E
5	2 Base C	21	Foul Out
6	2nd Out	22	1 Base C
7	Home Run D	23	2 Base D
8	Foul Strike	24	Foul Strike
9	3 Base D	25	1 Base A
10	1st Out	26	3rd Out
11	1 Base E	27	3 Base B
12	Strike	28	H. Run C
13	2 Base B	29	C.F. Out
14	R.F. Out	30	2 Base E
15	3 Base C	31	Strike
16	2 Base A	32	1 Base D

Fig. 23

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GAME APPARATUS

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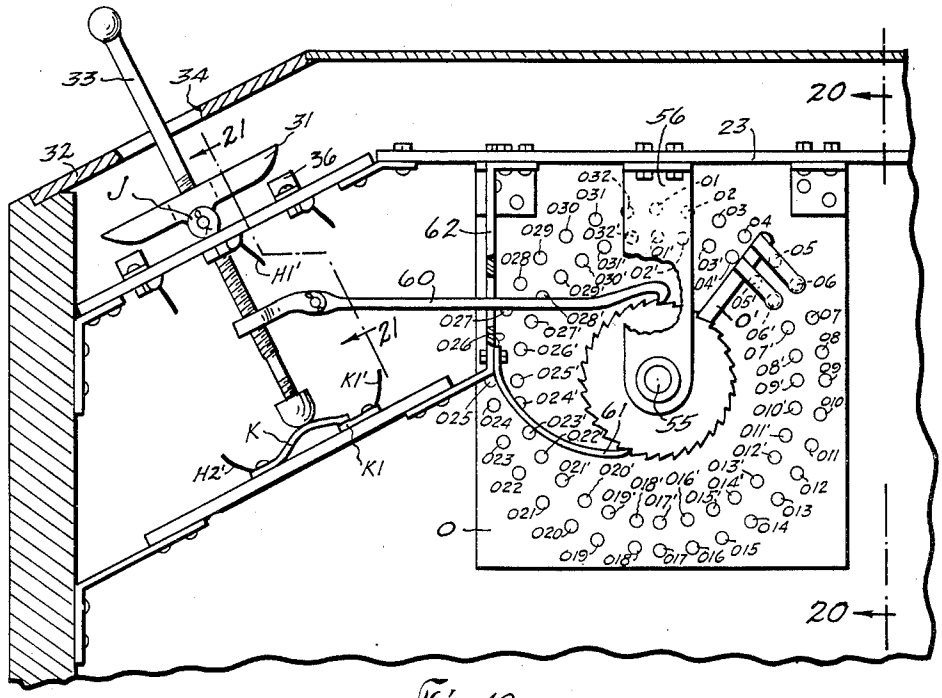


Fig. 19

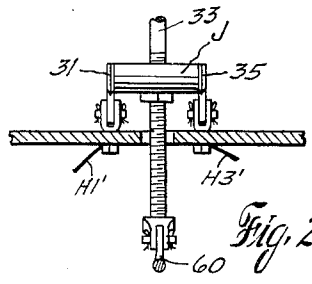


Fig. 21

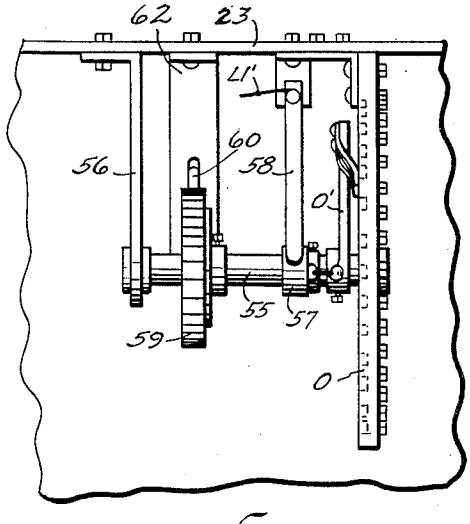


Fig. 20

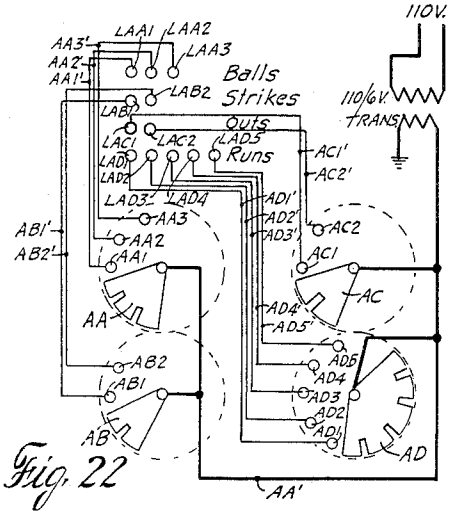


Fig. 22

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Patented Jan. 16, 1934 1,943,685

UNITED STATES PATENT OFFICE

1,943,685

GAME APPARATUS

Robert I. Mayorga, Oklahoma City, Okla.

Application July 1, 1930. Serial No. 465,221

13 Claims. (Cl. 273—88)

This invention relates to new and useful improvements in game apparatuses.

A particular object of the invention is to provide an electrically operated game apparatus for simulating some particular game, as the game of baseball.

One object of the invention is to provide certain improvements on the game apparatus set forth in my Letters Patent issued November 22, 1932, No. 1,888,537.

An important object of the invention is to provide rows of illuminating elements arranged to be successively energized to simulate the travel of a ball from the home plate to a predetermined position on the field.

Another object of the invention is to provide means for selecting the particular row of illuminating elements and illuminating the same in carrying out the play.

Still another object of the invention is to provide illuminating elements between the bases successively operated for simulating the path travelled by the runner; together with electrically operated means for controlling the operation of said elements and for partially operating said elements to indicate plays to different bases.

A further object of the invention is to provide an electric motor for operating the controlling means of the field rows as well as the base rows, together with automatic means for controlling the operation of the motor, whereby it is operated only for the length of time necessary to carry out the play.

A still further object of the invention is to provide automatically operated means for keeping the base elements energized and for de-energizing the field and path distributing panels together with means for operating the motor until the field and path distributing panels are reset in their initial position, whereby the player will remain on base and the various operating elements are set for carrying out the succeeding play.

Another object of the invention is to provide an apparatus electrically and automatically controlled, wherein the execution of the various plays incidental to a baseball game will be realistically simulated thus making for keen competition and the holding of interest by the contestants, as well as producing a fascinating and enjoyable game.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings in which an example of the invention is shown, and wherein:

Figure 1 is a plan view of a game board constructed in accordance with the invention,

Figure 2 is a side elevation of the same,

Figures 3, 4 and 5 are detail sectional views showing the mounting of the lamps,

Figure 6 is a wiring diagram showing the electrical circuit connections between the various operating elements,

Figure 7 is a wiring diagram showing the electrical connections between the indicating lamps and the operating elements connected therewith for simulating the travel of a hit ball to the field and of a player running the bases.

Figure 8 is a detail view of the pitcher's switch and the pitcher's ball and strike switch,

Figure 9 is a sectional view taken on the line 9—9 of Figure 8,

Figure 10 is a sectional view taken on the line 10—10 of Figure 8,

Figure 11 is an elevation of the distributing panels, showing their relative mounting and common rotary drive,

Figure 12 is a sectional view taken on the line 12—12 of Figure 11,

Figure 13 is a sectional view taken on the line 13—13 of Figure 11,

Figure 14 is a sectional view taken on the line 14—14 of Figure 11,

Figure 15 is a sectional view taken on the line 15—15 of Figure 13,

Figure 16 is a sectional view taken on the line 16—16 of Figure 14,

Figure 17 is a detail view showing the mounting of the slip rings and their electrical connections to the distributing brushes,

Figure 18 is a sectional view taken on the line 18—18 of Figure 17,

Figure 19 is a detail view of the batter's switch and the distributor showing their relation to each other,

Figure 20 is an end elevation of the same taken on the line 20—20 of Figure 19,

Figure 21 is a sectional view of the batter's switch taken on the line 21—21 of Figure 19.

Figure 22 is a wiring diagram of the manually operating electrical scoreboard, and,

Figure 23 is a legend of the distributor circuits in Fig. 6.

In the drawings the numeral 10 designates a game board having the plays, balls, strikes, outs,

hits and men portrayed by low volt lamps 11, which are mounted under transparent inserts 12, 13 and 14 secured in openings 15, 16 and 17 respectively in a non-transparent top 18. The top is colored to represent a baseball diamond 19 with the transparent inserts 12 positioned in the bases and in the paths between the bases so that a runner on a base and the advancement of the runner around the bases may be simulated by lighted lamps. The lamps are shielded radially by guards such as rubber tubes 20, so that the light rays are directed upward to indicate the play.

The transparent inserts 13 are colored and are placed in the fielding positions to portray the fielders, and the inserts 14 are positioned in a plurality of rows or paths A, B, C, D and E to indicate the travel of a hit ball to the field.

The lamps 11 are screwed into lamp sockets 21 which are mounted on a metal plate 22 supported on a sub-panel 23 and each held securely in place by a headed bolt 24. Within the socket and under the bolt head is a fibre washer 25 serving as an insulator. The bolt passing through an opening 26 in the socket and an opening 27 in the plate serves as a conductor for one side of an electric current. Therefore, a wire leading to the lamp needs only to be connected to the bolt, as the plate 22 serves as a common ground for all sockets.

The plate 22 is connected to the negative side of an electrical 6 volt direct current circuit F, while the positive side of the circuit has a lead wire F' to a pitcher's switch G (Fig. 8), which is mounted beneath an inclined panel 28 situated at one end of the game board. The switch has an operating bar 29 extending upward through a slot 30 in the panel.

The pitcher's switch has nine contact points G1, G2, G3, G4, G5, G6, G7, G8 and G9, the first eight of which have leads G1', G2', G3', G4', G5', G6', G7' and G8' respectively, to lamps LG1', LG2', LG3', LG4', LG5', LG6', LG7' and LG8' which are situated in and between the pitcher's box and the home base. The ninth contact point G9 has a lead G9' to a double throw pitcher's control switch H which is mounted in a concealed position from the batter's eyes.

The concealed switch H has four contact points, H1 and H2 which are marked "Strike", and H3 and H4 which are marked "Ball," thus giving the pitcher the decision of throwing either a ball or a strike. The strike contact point H1 has a lead H1' to a switch arm 31 of a double throw bat switch J which is mounted beneath an inclined panel 32, (Fig. 19) at the other end of the game board. The switch J has an operating arm 33 extending upward through a slot 34 in the panel 32. The ball contact point H3 has a lead H3' to a switch arm 35 of the switch J.

The contact points H2 and H4 have a common lead H2' to a single throw switch K which is mounted with relation to the bat switch J so that when the switch J is in a neutral position the switch K is closed. The switch K has a contact point K1 which has a lead K1' to a lamp LG9 situated in the home base.

Therefore, when the pitcher's switch G is operated the lamps LG1 to LG8 inclusive, are successively lighted, thereby simulating the throwing of a baseball from the pitcher to the catcher. With the concealed switch H on either the ball or strike contacts and the bat switch in a neutral position, the lamp LG9 is lighted indicating that the batter may strike at or pass the pitched ball, as desired.

When the bat switch J is moved forward to a position marked "Pass" the switch arm 31 makes contact with a contact point 36 and the switch arm 35 makes contact with a contact point 37. The contact point 36 has a lead 36' to a lead 38' between a colored lamp 38 situated in the catcher's box, and a colored lamp 39 that is marked "Strike." The contact point 37 has a lead 37' to a lead 40' between a lamp 40 situated in the catcher's box and a lamp 41 that is marked "Ball."

When the bat switch is moved backward to a position marked "Strike", the switch arms 31 and 35 make contact with contact points 42 and 43 respectively. The contact point 42 has a lead 42' to a lead L' connecting the coil of a relay switch L and the coil of a relay switch M. The contact point 43 has a lead 43' to the contact point 36. Therefore, when the concealed switch H is on the "Strike" contact point H1 and the bat switch is moved forward to the position marked "Pass" the electrical circuit is completed to the colored lamp 38 and to the colored lamp 39 marked "Strike", thereby lighting the same and registering a strike. But when the switch H is on the "Ball" contact point H3, the lamp 40 and the lamp 41 marked "Ball" are lighted, thereby registering a ball.

When the bat switch is moved backward to the position marked "Strike" with the switch H on the "Ball" contact point H3 the colored lamps 38 and 39 are lighted, thereby registering a strike. But when the switch H is on the "Strike" contact point H1 the electrical circuit leading to the coils of the relay switches L and M are closed.

The relay switch M has a switch arm M1 and two contact points M2 and M3 with the arm M1 normally in contact with the contact point M3. The arm M1 has a lead M1' to the six volt direct current lead F'. The contact point M3 has a lead M3' to a return bus bar NR in a control panel N, and the contact point M2 has a lead M2' to a lead L1' between a switch arm L1 of the relay switch L and a distributing arm O' of a distributor O. The relay switch also has two contact points L2 and L3 with which the switch arm L1 is normally disengaged. The contact point L2 has a lead L2' to a distributing arm PA of a distributor P, and the contact L3 has a lead L3' which is connected in common to contact points Q1, R1, and S1 of single throw switches Q, R and S respectively. Therefore when the electrical circuit leading to the coils of the relay switches L and M is closed the relays are closed breaking the electrical circuit to the return bus bar NR and closing the electrical circuit to the distributing arm O', and through the relay L to the distributing arm PA and to the switches Q, R and S. The resulting action of the closed electrical circuit to the switches Q, R and S will be hereinafter explained.

The distributor O has 64 contact points O1 to O32 and O1' to O32' inclusive, arranged in two concentric rows of 32 contact points each, with the contact points, O1 to O32 inclusive, in the outer row equally spaced and opposite the contact points, O1' to O32' inclusive, in the inner row. Ten of the contact points in the outer row (O4, O6, O8, O10, O14, O17, O21, O24, O26 and O29), have leads O4'', O6'', O8'', O10'', O14'', O17'', O21'', O24'', O26'' and O29'' re-

spectively to colored lamps OL4, OL6, OL8, OL10, OL14, OL17, OL21, OL24, OL26, and OL29, seven of which (OL4, OL6, OL10, OL14, OL17, OL26 and OL29) indicate outs at the positions of the fielders, two of which (OL8 and OL24) indicate foul strikes, and one of which (OL21) indicates a foul out. Five of the contact points in the outer row (O3, O11, O22, O25 and O32) have a common lead N1' to a one base quadrant bus bar N1 in the control panel N. Five of the contact points (O5, O13, O16, O23, and O30) have a common lead N2' to a two base semi-circular bus bar N2 of the control panel. Five of the contact points (O2, O9, O15, O20 and O27) have a common lead N3' to a three base three-quarter circle bus bar N3. Three of the contact points (O7, O18 and O28) have a common lead N4' to a home run circular bus bar N4. And, the remaining four contact points (O1, O12, O19 and O31) are dead.

Of the 32 contact points, (O1' to O32' inclusive) in the inner row, four of them (O1', O12', O19' and O31') have a common lead 44' to a colored lamp 44 marked "Strike". These four contact points are opposite the four "dead" contact points (O1, O12, O19 and O31) so that when the distributing arm O' is positioned over the "dead" contact points the electrical circuit will be closed through the contact points O1', O12', O19' and O31' to the colored lamp 44 which will be lighted, thereby indicating a strike. Three contact points (O2', O16' and O25') are opposite the contact points O2, O16 and O25 and have a common lead OA to a brush A' on a distributing arm 45 of a distributing panel T, so that when the distributing arm O' is engaged with either pair of the contact points O2—O2', O16—O16' or O25—O25', the electrical circuit will be closed to the respective bus-bar of the control panel N and to the brush A' of the distributing arm 45. Four contact points (O3', O13', O18', and O27') are opposite the contact points O3, O13, O18, and O27, and have a common lead OB to a brush B' on the distributing arm 45 of the panel T so that when the arm O' is engaged with either pair of the contact points O3—O3', O13—O13', O18—O18', and O27—O27' the electrical circuit is closed to the respective bus-bar of the panel N and to the brush B'. Four contact points (O5', O15', O22' and O28') are opposite the contact points O5, O15, O22 and O28 and have a common lead OC to a brush C' on the arm 45, so that when the arm O' is engaged with either pair of the contact points, O5—O5', O15—O15', O22—O22' and O28—O28', the electrical circuit is closed to the respective bus-bar of the panel H and to the brush C'. Four contact points (O7', O9', O23' and O32') are opposite contact points O7, O9, O23 and O32 and have a common lead OD to a brush D' of the distributing arm 45, so that when the arm O' is engaged with either pair of the contact points, O7—O7', O9—O9', O23—O23' or O32—O32', the electrical circuit is closed to the respective bus-bar of the panel N and to the brush D'. Three of the contact points (O11', O20' and O30') are opposite the contact points O11, O20 and O30 and have a common lead OE to a brush E' on the distributing arm 45, so that when the arm O' is engaged with either pair of the contact points, O11—O11', O20—O20' and O30—O30', the electrical circuit is closed to the respective bus-bar and to the brush E'.

Seven of the contact points (O4', O6', O10', O14', O17', O26' and O29' are opposite the contact points O4, O6, O10, O14, O17, O26 and O29 and have a common lead 46' to a colored lamp 46 marked "Out", so that when the arm O' is engaged with either pair of the contact points (O4—O4', O6—O6', O10—O10', O14—O14', O17—O17', O26—O26' and O29—O29') the electrical circuit is completed to the respective colored lamps at the fielders' positions and to the colored lamp 46, thereby indicating an "Out". Also, a contact point O21' is opposite the contact point O21 and is connected to the common lead 46' so that when the arm O' is engaged with the contacts O21 and O21' the electrical circuit is completed to the lamp OL21 marked "Foul out" and to the lamp 46 marked "Out", thereby lighting said lamps to indicate an "Out". The remaining two contact points (O8 and O24') are opposite the contact points O8 and O24 and are connected to the common lead 44' so that when the arm O' is engaged with these contact points (O8—O8' and O24—O24') the electrical circuit is completed to the lamps OL8 and OL24 marked "Foul" and to the lamp 44, marked "Strike", thereby lighting the same to indicate a "foul strike". Therefore when the electrical circuit is closed to the distributor O the resulting play depends on the position of the arm O'.

When the electrical circuit is closed to either of the bus-bars N1, N2, N3 or N4, and likewise their respective brushes A', B', C', D' or E' of the arm 45, said circuit is carried through a common brush arm N' of the panel N, and a lead U' to the coil of a relay switch U, thereby actuating a switch arm U1. This switch has two contact points U2 and U3 with the arm U1 normally engaging the contact point U3. The arm U1 has a lead U1' to the positive side of a 110 volt alternating current circuit while the contact point U3 has a lead U3' to one side of a lamp 47 marked "Playing signal". The other side of the lamp 47 has a lead 47' to the negative side of the 110 volt circuit so that when the arm U1 is normally engaged with the contact point U3 the lamp 47 is lighted. When the switch arm U1 is actuated to engage the contact point U2 the circuit to the lamp 47 is broken, but said circuit is closed through a lead U2' to one side of a motor 48, the other side of which is connected to the lead 47'. Therefore when an electrical current is on the brush arm N' of the control panel N the 110 volt circuit is closed to the motor 48, thereby operating the same.

As best shown in Fig. 11, the distributing panel P, the control panel N, and the distributing panel T are rigidly connected together by corner rods 49, with their brush arms PA, N', and 45 respectively, mounted on a common shaft 50. The shaft is connected by a reduction train of gears and pulleys 51 with the motor 48, so that the operation of the motor will revolve the shaft 50 at a slow speed, such as approximately one revolution every 15 seconds.

The brushes on their respective arms are connected with individual commutator rings 52 which are mounted on the shaft 50 and which are connected by spring brushes 53 to their respective leads.

As the shaft 50 revolves, the brush arm PA of the panel P successively engages contact points P1 to P32 inclusive, which have leads P1' to P32' respectively to lamps LP1 to LP32, that are situated in and between home base, first base, second base, and third base.

Also, as the shaft 50 revolves the brush A'

on the arm 45 of the panel T, successively engages contact points A1 to A15 inclusive, which have leads A1' to A15' to lamps LA1 to LA15, situated in row A on the playing field. The brush B' on the arm 45 successively engages contact points B1 to B19 inclusive, which have leads B1' to B19' to lamps LB1 to LB19 situated in the row B. The brush C' successively engages contact points C1 to C19 inclusive, which have leads C1' to C19' to lamps LC1 to LC19 situated in row C. The brush D' successively engages contact points D1 to D19 inclusive, which have leads D1' to D19' to lamps LD1 to LD19 situated in row D. And, the brush E' successively engages contact points E1 to E15 inclusive which have leads E1' to E15' to lamps LE1 to LE15 situated in row E.

As the operation of the motor synchronously revolves the brush arms PA, N', and 45, the lamps LP1 to LP32 will be lighted simultaneously with the lighting of the lamps in either of the rows A, B, C, D and E, thereby simulating at the same time the travel of a hit ball to the field and the advancement of a player from home base to first base, second base, third base or home base again, as the case may be.

When the batter strikes at a strike and closes the electrical circuit to the distributor arm O', the resulting play depends entirely on the position of said distributor arm. On a one base hit the electrical circuit is closed to the one base bus-bar N1, thereby operating the motor 48 until the brush arm N' reaches the end of said bus-bar. The electrical circuit is also closed to one of the brushes A', B', C', D' and E' on the arm 45, and to the brush arm PA, thereby simulating the travel of a ball to the field for a one base hit, and the advancement of the batter from home base to first base.

To hold the player, who has made one base hit, on first base and to return the brush arms PA, N', and 45 to their initial positions on their respective panels and thereby reset the elements for the succeeding play or plays, a switch arm V1 and the coil of a relay switch VA are connected by a lead V1' to the lead P8', with the arm V1 normally disengaged from a contact point V2 of said relay. The contact point V2 has a lead V2' to a contact point W1 of a master release relay switch W. A switch arm W2 of the relay W is normally engaged with the contact point W1 and has a lead W2' to the 6 volt lead F'. Therefore when the electrical circuit is closed through the lead P8' to the lamp LP8 to indicate a player on first base the relay switch VA is actuated and closes the electrical circuit through the 6 volt lead F' and the leads W2', V2' and V1' to the lamp LP8, so that when the bat switch J is returned to its upright position and the electrical circuit is broken to the arm PA of the panel P, the lamp LP8 remains lighted.

As the bat switch is returned to its upright position the electrical circuit is broken to the distributor brush arm O' and also to the coil of the relay M, whereby the switch arm M1 of said relay is released and returns to its normal position in engagement with the contact M3. The engagement of the contact M3 and arm M1 closes the electrical circuit to the return bus-bar NR, thereby operating the motor 48 until the brush arm N' reaches the end of the bus-bar NR whereby the motor is stopped with the respective brush arms of the panels P, N and T in their initial or neutral position.

On a two base hit the electrical circuit is closed to the two base bus-bar N2, thereby operating the motor 48 until the brush arm N' reaches the end of said bus-bar. Also, the electrical circuit is closed to one of the brushes A', B', C', D' and E' and to the brush arm PA, thereby simulating the travel of a ball to the field for a two base hit, and the advancement of the batter from home base to second base.

To hold the player on second base while the brush arm PA is returning to its initial position, a switch arm X1 and a coil of a relay switch XA are connected by a lead X1' to the lead P16', with the arm X1 normally disengaged from a contact point X2 of said relay. The contact point X2 has a lead X2' to the lead V2' so that when the switch arm X1 is engaged with the contact X2 the electrical circuit is closed through the relay switch arm W1 and the relay switch arm X1 to the lamp LP16. Therefore, when the electrical circuit is closed to the lamp LP16 through the lead P16' the relay switch XA is actuated, thereby engaging the arm X1 with the contact X2 and closing a second circuit through the lead X2' to said lamp.

On a three base hit the electrical circuit is closed to the three base bus-bar N3, thereby operating the motor until the brush arm N' reaches the end of said bus-bar. The electrical circuit is also closed to one of the brushes A', B', C' D' and E' and to the arm PA, thereby simulating the travel of a ball to the field for a three base hit, and the advancement of the batter from home base to third base.

To hold the player on third base while the arm PA is returning to its initial position, a switch arm Y1 and the coil of a relay switch YA are connected by a lead Y1' to the lead P24' with the arm Y1 normally disengaged from a contact point Y2 of said relay. The contact Y2 has a lead Y2' to the lead X2', so that when an electrical circuit is closed to the lamp LP24 through the lead P24' and also to the coil of the relay YA through the lead Y1', the relay is actuated, thereby engaging the arm Y1 with the contact Y2 and closing a second electrical circuit through the relay switch arms W1, X1, and Y1 to the lamp LP24. Therefore when the batters' switch is raised to its upright position and the first electrical circuit through the lead P24' to the lamp LP24 is broken, said lamp will remain lighted.

On a home run the electrical circuit is closed to the home run bus-bar N4, thereby operating the motor until the brush arm N' reaches the end of this bus-bar. The electrical circuit is also closed to one of the brushes B', C' or D' of the arm 45 and to the arm PA, thereby simulating the travel of a ball to the field for a home run hit, and the advancement of the batter from home base around the bases and back to home base. When the batters' switch is returned to its upright position the electrical circuit is broken to the arm PA, and the arm O', and the electrical circuit is closed to the return bus-bar NR, thereby returning the arm N' to its initial position in engagement with the bus-bars N1, N2, N3 and N4.

For advancing a player who is on base around the succeeding bases to home base, the panel P has three brush arms PB, PC, and PD positioned to engage respectively the contacts P8, P16 and P24 when the brush arm PA is in its initial position. The arm PB has a common lead PB' to a

switch arm VB1 and to the coil of a relay switch VB. The arm VB1 is normally disengaged from a contact point VB2 which has a lead VB2' to a contact point Q2 of the release switch Q.

The arm PC has a common lead PC' to a switch arm XB1 and to the coil of a relay switch XB. The arm XB1 is normally disengaged from a contact point XB2 which has a lead XB2' to a contact point R2 of the release switch R. The arm PD has a common lead PD' to a switch arm YB1 and the coil of a relay switch YB. The arm YB1 is normally disengaged from a contact point YB2 which has a lead YB2' to a contact point S2 of the release switch S. Consequently when the electrical circuit is closed to the lamp LP8 indicating a player on first base, the electrical circuit is also closed through the leads P8' and PB' to the arm VB1 and the coil of the relay VB thereby actuating said relay and holding said arm in engagement with contact VB2. Then, when a hit is made a second electrical circuit is closed through the lead L3' to the release switch Q, as hereinbefore explained, and through the switch Q and leads VB2' and PB' to the brush arm PB, and the coil of the relay VB, thereby holding the second electrical circuit on said brush arm to advance the player from first base to second base, third base, or home, as the case may be. In this manner, the player on base is advanced around the bases simultaneously with the advancement of the batter from home to first base or beyond, as the case may be.

It will be noted that on a one base hit the player on first base will advance to second and that when the batters' switch 31 is returned to its upright position at the end of the play the electrical circuit will be broken to the lead L3' and likewise to the brush arm PB, whereby the further rotation of the arm PB to its initial or neutral position may be had with the player remaining on second base.

The closing and opening of the electrical circuits to the brush arms PC and PD for advancing players from second base and third base are similar to the closing and opening of the electrical circuit to the arm PB for advancing a player from first base, therefore it is not considered necessary to describe the operation of these elements.

As best shown in Figs. 14 and 16, the release switches Q, R and S are mounted in the panel P opposite the contact point P32. The switches are positioned in the paths of knobs PBQ, PCR, and PDS respectively, which depend from the brush arms PB, PC and PD, whereby as each of said brush arms revolves past its respective switch the knob on said brush arm will depress the switch arm, thereby breaking the electrical circuit through said switch to the brush arm. Therefore, with the electrical circuit closed to either or all of the brush arms PB, PC and PD, for advancing a player or players to home base, as the player or players reach home base the electrical circuit is broken to the respective brush arm, thereby preventing the player from continuing beyond home base.

To manually close the electrical circuit to the first, second or third lamps for indicating a player on base who has been walked by the pitcher or for advancing a player when the following batter has been walked, three push type switches Z1, Z2 and Z3 marked "On" have leads Z1', Z2' and Z3' from switch arms Z4, Z5 and Z6 respectively, to the base lamp leads P24', P16' and P8'. Contact point Z7, Z8 and Z9 of said switches have a common lead Z7' to the lead F', so that by pressing the switch arms Z4, Z5 and Z6 into engagement with the contacts Z7, Z8 and Z9 the electrical circuit is closed to the coils of the relays YA, XA and VA, thereby closing and locking the second electrical circuit to the lamps LP24, LP16 and LP8, as hereinbefore explained.

To manually break the electrical circuit to the lamps LP24, LP16, and LP8, to take a player off base, when the batting side has been retired or when the player has been put on base through error, three push type switches ZA1, ZA2, and ZA3 marked "Off" have switch arms ZA4, ZA5 and ZA6 which are normally engaged with contact points ZA7, ZA8 and ZA9. The switch arms ZA4, ZA5 and ZA6 have common leads ZA4', ZA5' and ZA6' to the negative sides of coils of the relays YA and Y3, XA and XB and VA and VB while the contacts ZA7, ZA8 and ZA9 have a common ground lead ZA7'. Therefore, by pressing the switch arms ZA4, ZA5 and ZA6 from engagement with the contacts ZA7, ZA8 and ZA9 the electrical circuit is broken to the lamps LP24, LP16 and LP8.

It will be noted that the leads ZA4', ZA5' and ZA6' serve as ground leads for the coils of the relays YB, XB and VB respectively.

As best shown in Figs. 8 and 12, four combat bus-bars T1, T2, T3 and T4 (segmental in shape) are positioned in the panel T, with the bus-bar T1 between the one base contact points and the two base contact points, the bus-bar T2 between the two base contact points and the three base contacts, the bus-bar T3 between the three base contacts and the four base or home run contacts and the bus-bar T4 between the home run contacts and the one base contacts. Therefore, on a one base hit the brush arm 45 will stop revolving and will be engaged with the bus-bar T1, on a two base hit, three base hit or home run hit the brush arm 45 will stop revolving and will be engaged with the bus-bars T2, T3, or T4 respectively.

The bus-bars T1, T2, T3 and T4 have leads T1', T2', T3' and T4' respectively to contact points CH1, CH2, CH3, and CH4 of a combat switch CH which is marked "Hits". The combat switch CH has a lead CH' to a combat switch CB that is marked "Bases", and which has four contact points CB1, CB2, CB3 and CB4. The contact points CB1, CB2, CB3, and CB4 have leads CB1', CB2', CB3' and CB4' to colored lamps LCB1, LCB2, LCB3 and LCB4 situated respectively in first, second, third and home bases. Consequently, when a hit is made by the batter, the electrical circuit is closed at the end of the resulting play to the hit combat switch CH, therefore, the pitcher may, by anticipating the hit to be made, set the combat switch CH on the proper contact point and the combat switch CB on the base contact point at which he desires the runner out, thereby causing the colored light to register at the proper base which indicates the runner is out. This combat play must be kept within the rules of baseball as a batter who makes a three base hit could not legally be thrown out at first base; but if a runner is on first base a three base hit can be thrown home and catch the runner out, etc.

As shown in Fig. 22, three lamps LAA1, LAA2 and LAA3 marked "Balls" have leads AA1', AA2' and AA3' to contact points AA1, AA2, and AA3 of a switch AA. Two colored lamps LAB1

and LAB2 marked "Strikes" have leads AB1' and AB2' to contact points AB1 and AB2 of a switch AB. Two colored lamps LAC1 and LAC2 marked "Outs" have leads AC1' and AC2' to contact points AC1 and AC2 of a switch AC. And five lamps LAD1, LAD2, LAD3, LAD4 and LAD5 marked "Runs" have leads AD1', AD2', AD3', AD4' and AD5' to contact points AD1, AD2, AD3, AD4 and AD5 of a switch AD. The switches AA, AB, AC and AD are connected to a lead AA' of a 6 volt lighting circuit, whereby the switches when engaged with their contacts will light the respective lamps, thus providing a manually operated electric score board for keeping the score of the game as it progresses.

As best shown in Figs. 19 and 20 the distributor panel O is rigidly secured to the sub-panel 23 and the brush arm O' is adjustably mounted on a shaft 55. This shaft has its ends journaled in the panel and in a bracket 56 secured to the sub-panel 23. The arm O' has a lead to a commutator ring 57 which is mounted on the shaft and which is connected by a spring brush 58 to the lead L1'. A gear 59 is mounted on the shaft and is actuated by a ratchet bar 60 which is pivotally connected to the lower end of the batters' switch operating arm 33, so that when the batters' switch is actuated the ratchet 59 is revolved, thereby revolving the brush arm O'. A spring arm 61 attached to a hanger 62 makes frictional contact with the teeth of the ratchet 59 in such a manner that when the ratchet is released by the bar the brush arm O' is centered on the contact points of the panel O. In this manner the batter cannot monopolize the position of the distributor arm O'.

The distributor may be operated in any suitable manner and the various switches may be of any construction suitable for the purpose.

As a 110 volt alternating electric current is more commonly used for lighting purposes in the homes, offices, etc., and as 6 volt direct current lamps are illustrated in the invention, I provide a 110/6 volt transformer 65 for reducing the voltage and a rectifier 66 for changing the 6 volt alternating electric current to a 6 volt direct electric current F. As hereinbefore stated, the lead F' is connected to the positive side of the circuit F, while the negative side of said circuit is connected to the plate 22.

The game is adapted to be played between two or more persons, one acting as pitcher and operating the pitcher's switch G (Figure 8) by means of the bar 29 and the other acting as batter and operating the switch J by means of the lever 33. In order to make the game realistic and to simulate a ball game, each player may anticipate and combat the play made by the other player. The pitcher manipulates the switch H, which is concealed from the view of the batter. Before operating the switch G the pitcher sets the switch H in an endeavor to out guess the batter. It is to be understood that the operation of the switch G merely illuminates the lamps extending from the pitcher's box to the home plate to simulate the throwing of the ball. When the switch H is set for a strike (Figure 6) and the batter moves the lever 33 (Figure 19) forwardly, the contacts 31 and 36 are closed with the result that a strike is registered; but should the pitcher have set the switch for a ball and the batter had moved the lever forwardly for a pass, a ball would be registered.

If the pitcher sets the switch H for a ball and the batter moves the lever 33 backward for a strike, a strike is registered against him. However, when the pitcher sets his switch H for a strike and the batter moves the lever 33 backward for a strike, then the relay switches L and M are closed (Figure 6). This breaks the electrical circuit to the bar NR and closes the switches Q, R and S (Figures 6 and 14).

When the lever 33 is swung backward for a strike, the bar 60 (Figure 19) is moved forwardly so as to take a grip on the teeth of the ratchet 59. Then by swinging the lever 33 forwardly the bar 60 is pulled rearwardly, which rotates the ratchet 59. By this operation the distributing arm O' is swung so that its contacts engage new contacts of the distributor panel O (Figures 6 and 19). It is obvious that the subsequent plays depend upon the particular contacts which are engaged. Hits to the outfield, base running and fouls are all indicated according to the electrical contacts made. Where contacts connected with the distributing panel T (Figures 7 and 12) are engaged, the base lamps are operated and the bases illuminated according to the play. Also the advancing of men on bases is indicated. The different functions and plays have been specifically described and it is not considered necessary to go into the same in detail.

In connection with the operation of the switch panels O and T it might be pointed out that the advancing of the players is controlled by the switch P, which is operated by the motor 48. In order that the pitcher may further combat the batter, the switches C, B, and CH (Figure 1) may be manipulated. The switch CB is intended for bases and the switch CH for hits. When the pitcher sets the switch H for a strike he may at the same time manipulate either the switch CH or the switch CB, or both. Then if the batter pulls the lever 33 backward and a play results which the pitcher has anticipated by setting said switches, such play will be nullified. For instance if a two base hit is made the lamps will be illuminated indicating the play and the runner will advance, and then the colored lamp at that base (LCB2) will light up showing the runner out.

When each play is completed and the apparatus is ready for another play, the playing signal, indicated by the lamp 47 (Figures 1 and 6) will be illuminated, thus indicating that all parts are in operative position.

Various changes in the size and shape of the different parts, as well as modifications and alterations, may be made within the scope of the appended claims.

What I claim, is:

1. In a competitive game, a base board having a playing field thereon and provided with electric lamps for indicating the elements of the game, some of said lamps being arranged to simulate paths traveled by balls hit to the outfield, others of said lights indicating the players' positions, and still others indicating the path traveled by runners in going from base to base, as well as indicating the base positions, means for closing an electric circuit to pre-determined lamps or groups of lamps for designating plays on the ball, means for closing electric circuits to the runners' lamps to indicate the movement of the runners, a row of lamps indicating the pitching of the ball, a switch for operating said pitching lamps, a batter's switch having selectable points of contact for closing the electric circuits to anticipate the play simulating the pitching of the ball, a concealed pitcher's switch having selectable points of contact for differently desig-

nating the play of the pitched ball, a distributing switch connected with the circuit closing means for the various lamps for closing the circuits thereto to simulate the plays as pre-determined by the contact connections of said distributor, and means connected with the batter's switch for operating said distributor.

2. In a competitive game, a baseboard having a playing field thereon and provided with electric lamps for indicating the elements of the game, means for closing an electric circuit to illuminate certain of the lamps to simulate the playing action of one of the competitive sides, selective means for designating the different playing actions of said competitive sides, and a switch having selectable points of contact for closing the electric circuits to anticipate the playing action of one of said competitive sides.

3. A competitive game as set forth in claim 1 and a combat switch electrically connected to anticipate and nullify gains made by the operation of the distributor.

4. A competitive game as set forth in claim 2 and means electrically connected to said switch for anticipating and nullifying gains made by the opposite competitive side.

5. A competitive game as set forth in claim 1, and the batters' switch and the distributor electrically connected with individual lamps for closing the circuits thereto to indicate individual plays when the batters' switch is operated.

6. In a competitive game adapted to be played by a plurality of players, a base board having a playing field thereon, electric lamps on said base board arranged for indicating the elements of the game played, some of said lamps being arranged to simulate paths traveled by balls hit to the outfield, others of said lamps indicating the players' positions, and still others indicating the paths traveled by the runners in going from base to base, as well as indicating the base positions, an electric motor, a selective switch operated by the motor and connected with the base runners' lamps, and means for closing the motor circuit and also the circuits to said selective switch.

7. A competitive game as set forth in claim 6, and means for electrically closing and breaking the motor circuit at the beginning and end of each play.

8. In a competitive game adapted to be played by a plurality of players, a base board having a playing field thereon, electric lamps on said base board arranged for indicating the playing actions of the game, some of said lamps being arranged to simulate paths traveled by balls hit to the outfield, others of said lamps indicating the players positions, and still others indicating the paths traveled by the runners in going from base to base, as well as indicating the base positions, an electric motor, a selective switch operated by the motor and connected with the base runners' lamps for operating the same to indicate the path of the runner and also the advancing of men on bases, and means having a plurality of contacts for closing the motor circuit and the various circuits to the selective switch and the lamps indicating the paths traveled by batted balls and other playing actions of the game.

9. In a competitive game, a base board having a playing field thereon, a home plate lamp, an electric switch connected with said lamp, a batter's lever engaging said switch, switch arms carried by the lever, a pair of relay switches, contacts electrically connected with said relay switches and in the path of the switch arms carried by the lever, a distributor having electric circuit contacts, a distributor arm having brushes for engaging said contacts, and a pawl and ratchet connected with the distributor arm and the lever, whereby said arm is swung upon operation of the lever.

10. In a competitive game, a base board having a plurality of lamps mounted thereon for indicating elements of the game played, a plurality of distributor panels having contacts electrically connected with said lamps, a distributor shaft, contact arms mounted on said shaft for engaging said contacts, an electric motor switch controlled by one of the distributors, a contact arm mounted on said shaft and engaging said switch, an electric motor electrically connected with said motor switch, and a driving connection between the motor and the distributor shaft.

11. In a competitive game, a base board having a plurality of electric lamps arranged and connected on the board to designate various plays and playing actions of a base ball game, a pitcher's switch having connection with certain of the lamps, a batter's switch having connection with certain of the lamps, a primary distributor having contact points and set to operate by the batter's switch, certain of the lamps being connected with contacts of the primary distributor, a secondary distributor having contacts electrically connected with contacts of the primary distributor and also with certain of the lamps, an electric motor for driving the secondary distributor, and an electric switch for the motor controlled by the primary distributor.

12. A competitive game as set forth in claim 11, with a base switch connected with lamps at the bases for combating plays set up by the contacts of the distributors, and a hit switch connected with the secondary distributor for combating plays set up by the contacts thereof.

13. A competitive game as set forth in claim 11, with an additional distributor having electrical contacts, and a plurality of relay switches connected with the additional distributor and also connected with the lamp circuits.

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