Oct. 7, 1941

D. S. ALEXANDER

2,258,272

BASEBALL GAME

Filed Sept. 8, 1938

11 Sheets-Sheet 1

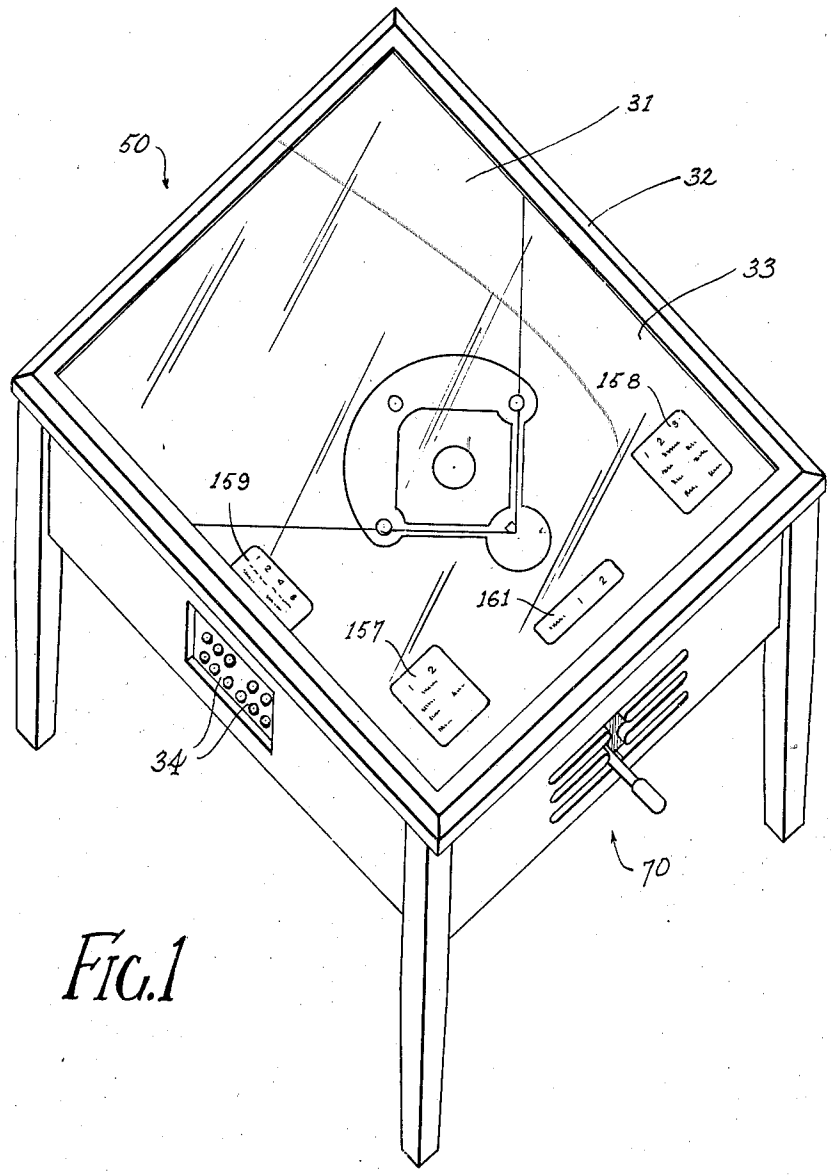


FIG. 1

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Oct. 7, 1941. D. S. ALEXANDER 2,258,272

BASEBALL GAME

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PITCHER'S · SELECTION · OF · "PITCHES"

	51	52	53	54	55	56	57	58	59
	OUTSIDE HIGH	INSIDE HIGH	CHEST HIGH	OUTSIDE MIDDLE	DOWN MIDDLE	INSIDE MIDDLE	KNEE HIGH	OUTSIDE LOW	INSIDE LOW
SWING CHEST HIGH	FLY-OUT to RIGHT FIELD-81	SINGLE to RIGHT FIELD-82	TRIPLE to RIGHT FIELD-83	INFIELD-OUT to 2ND BASE-MAN-84	INFIELD-OUT LINE-DRIVE 85	INFIELD-OUT to 3RD BASE-MAN-86	STRIKE SWUNG AND MISSED-87	STRIKE SWUNG AND MISSED-88	STRIKE SWUNG AND MISSED-89
SWING DOWN MIDDLE	FOUL STRIKE 90	FOUL FLY-OUT 91	FLY-OUT to CENTER FIELD-92	DOUBLE to RIGHT FIELD-93	HOME RUN 94	DOUBLE to LEFT FIELD-95	INFIELD-OUT to 1ST BASE-MAN-96	INFIELD-OUT to PITCHER 97	FOUL STRIKE 98
SWING KNEE HIGH	STRIKE SWUNG AND MISSED-99	STRIKE SWUNG AND MISSED-100	STRIKE SWUNG AND MISSED-101	INFIELD FLY-OUT 102	INFIELD FLY-OUT 103	FLY-OUT to LEFT FIELD-104	TRIPLE to LEFT FIELD-105	SINGLE to LEFT FIELD 106	INFIELD-OUT to SHORT STOP 107
LET PASS	BALL 108	BALL 109	STRIKE 110	BALL 111	STRIKE 112	BALL 113	STRIKE 114	BALL 115	BALL 116
ATTEMPT SACRIFICE BUNT	BALL 117	FOUL FLY-OUT 118	SACRIFICE BUNT **119**	FOUL STRIKE 120	SACRIFICE BUNT 121	FOUL STRIKE 122	SACRIFICE BUNT 123	FOUL FLY-OUT 124	BALL 125
ATTEMPT TO STEAL	SAFE 126	OUT 127	OUT 128	OUT 129	SAFE 130	OUT 131	OUT 132	OUT 133	SAFE 134
	71	72	73	74	75	76			

BATTER'S · SELECTION · OF · "SWINGS" ETC.

Fig. 2

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BASEBALL GAME

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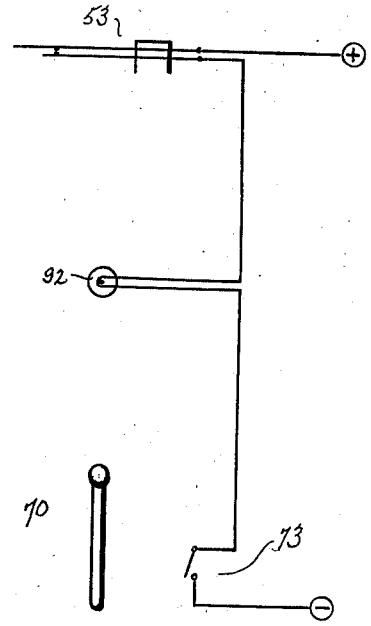


FIG. 3

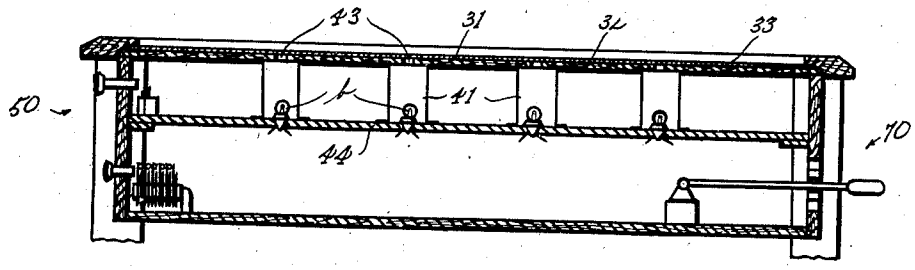


FIG. 4

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Oct. 7, 1941. D. S. ALEXANDER 2,258,272

BASEBALL GAME

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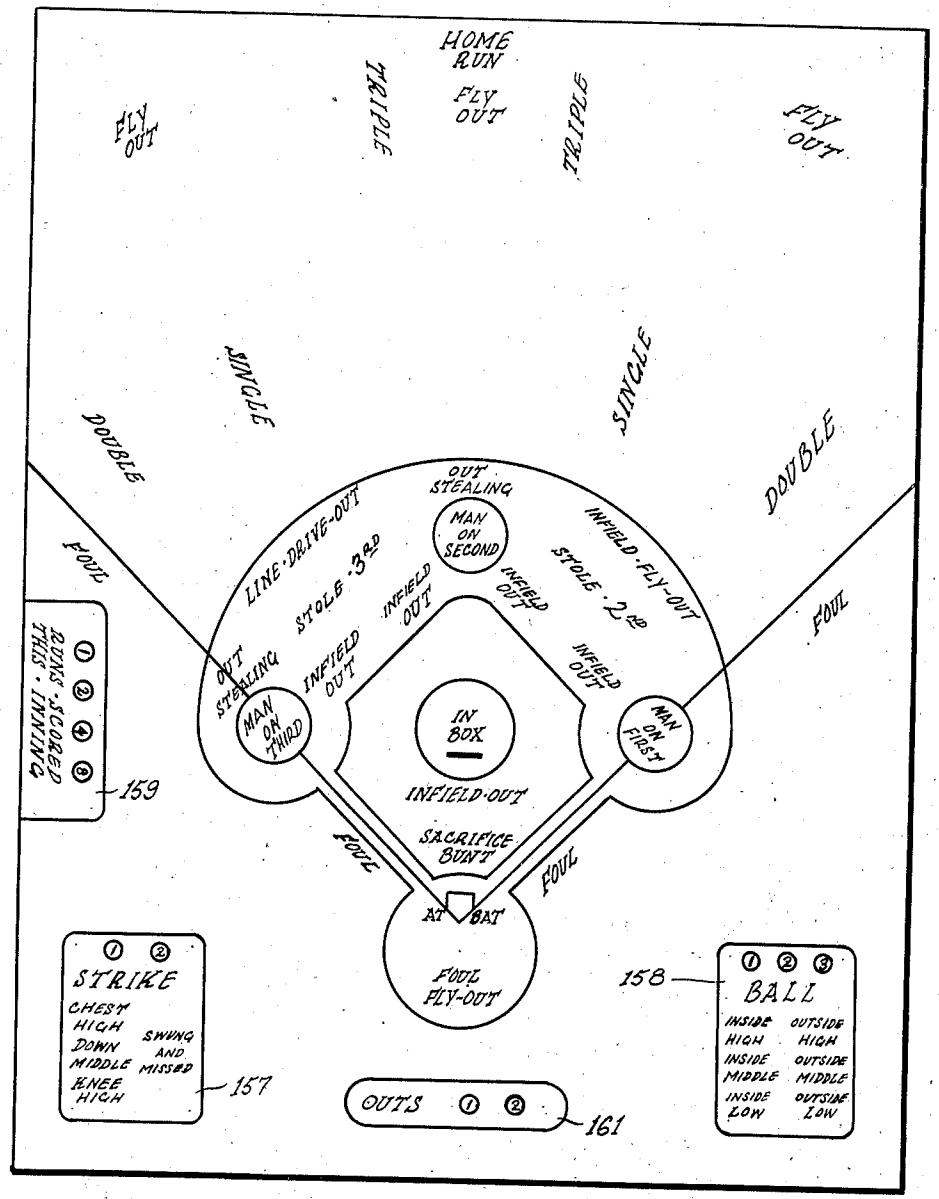


FIG. 5

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Oct. 7, 1941. D. S. ALEXANDER 2,258,272

BASEBALL GAME

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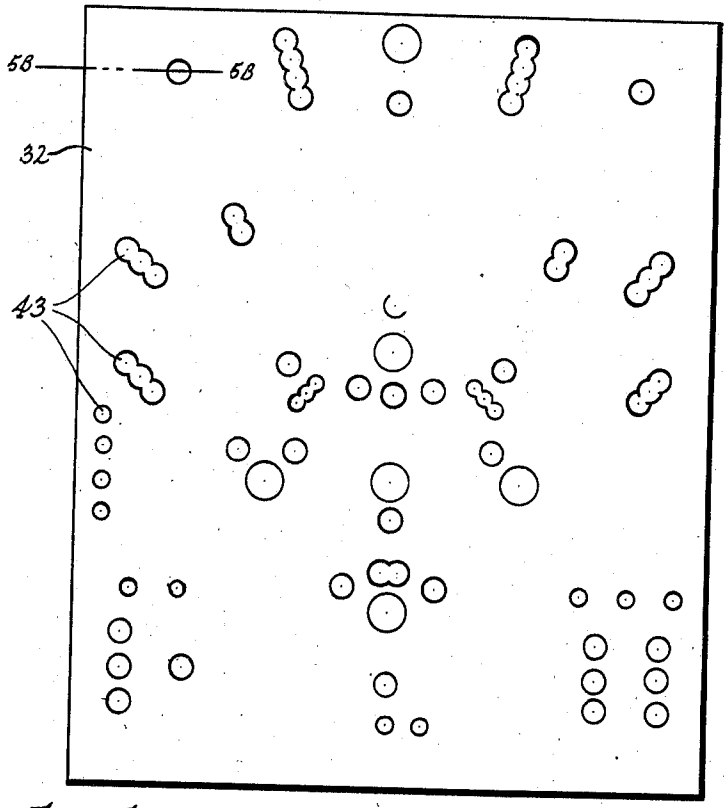


FIG. 5A

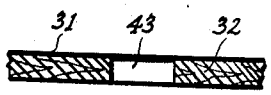


FIG. 5B

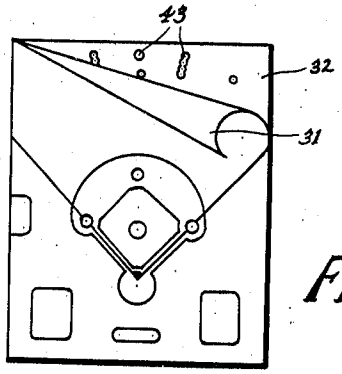


FIG. 5C

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Oct. 7, 1941. D. S. ALEXANDER 2,258,272

BASEBALL GAME

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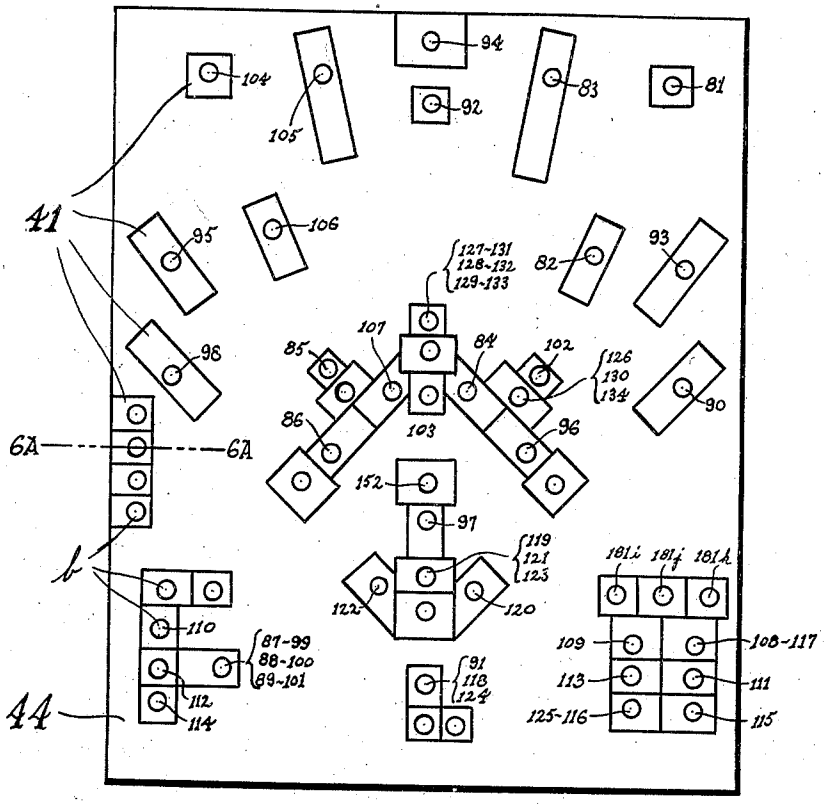


FIG. 6

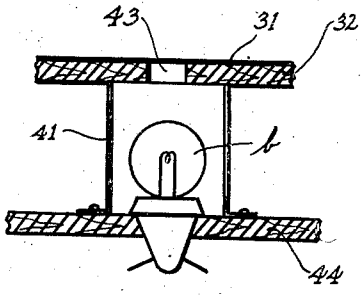


FIG. 6A

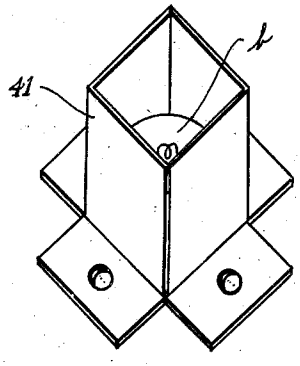


FIG. 6B

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Oct. 7, 1941. D. S. ALEXANDER 2,258,272

BASEBALL GAME

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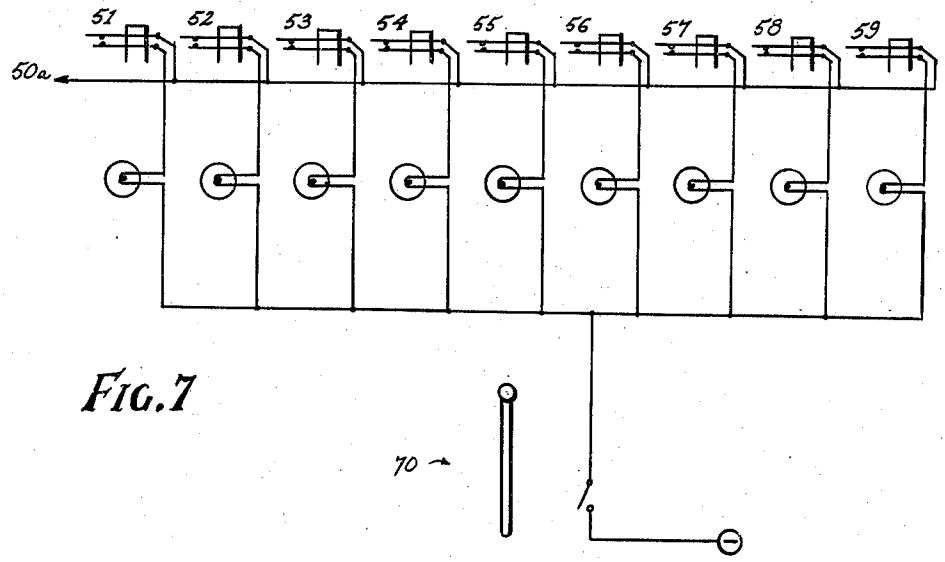


FIG. 7

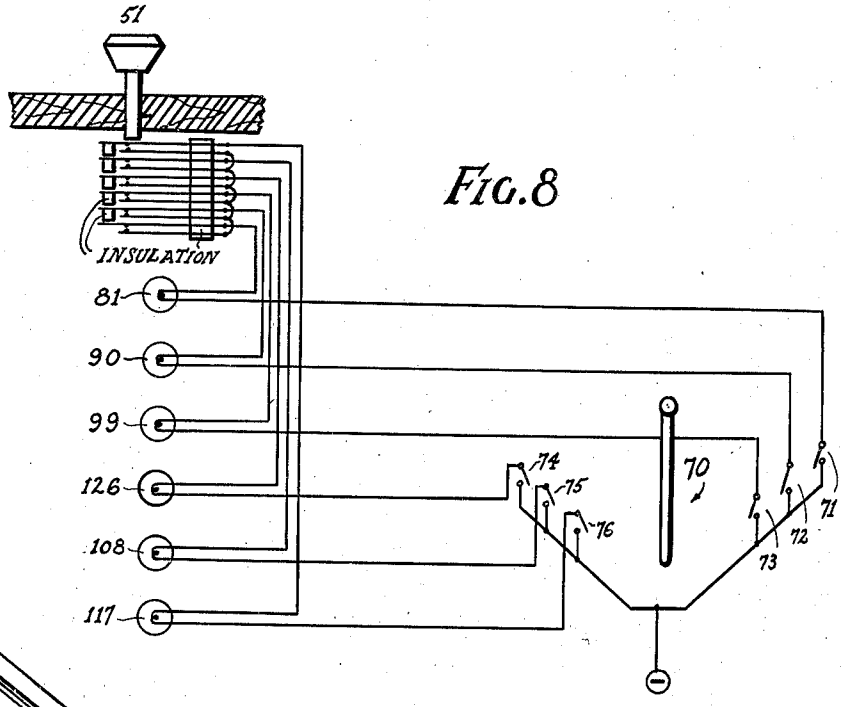


FIG. 8

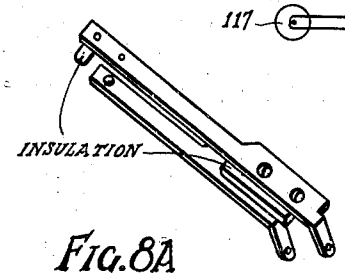


FIG. 8A

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BASEBALL GAME

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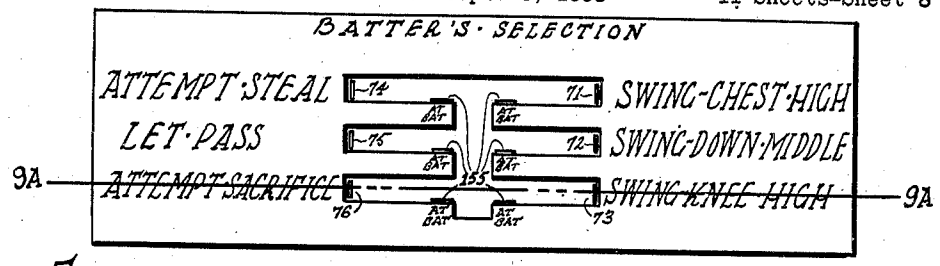


FIG. 9

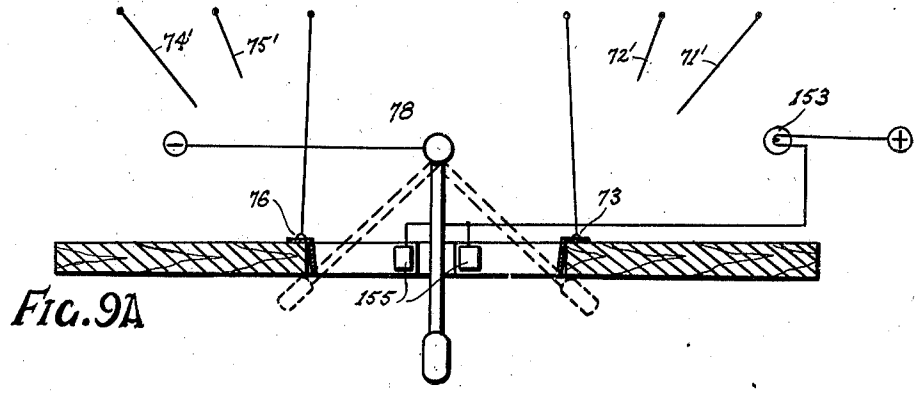


FIG. 9A

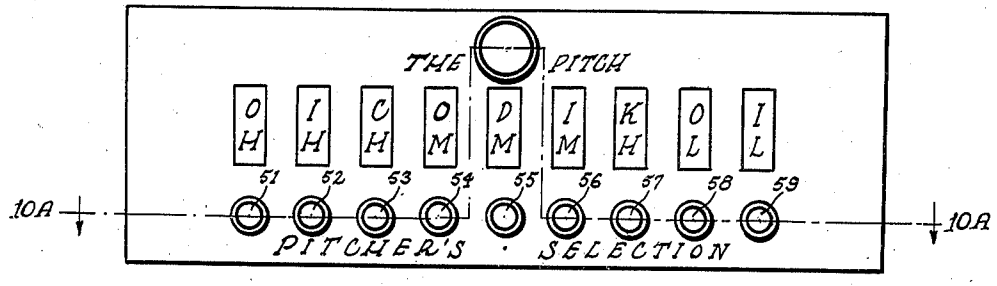


FIG. 10

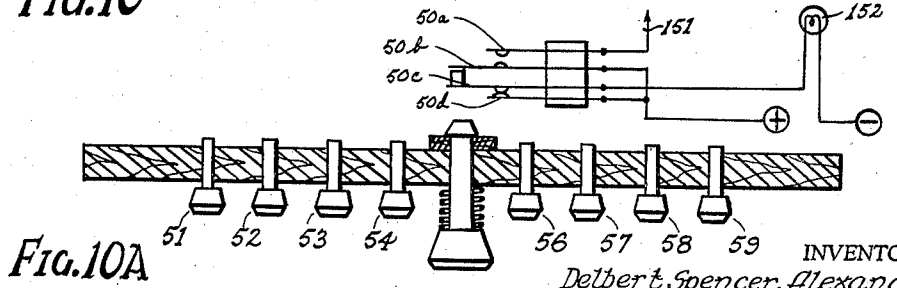


FIG. 10A

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Oct. 7, 1941. D. S. ALEXANDER 2,258,272

BASEBALL GAME

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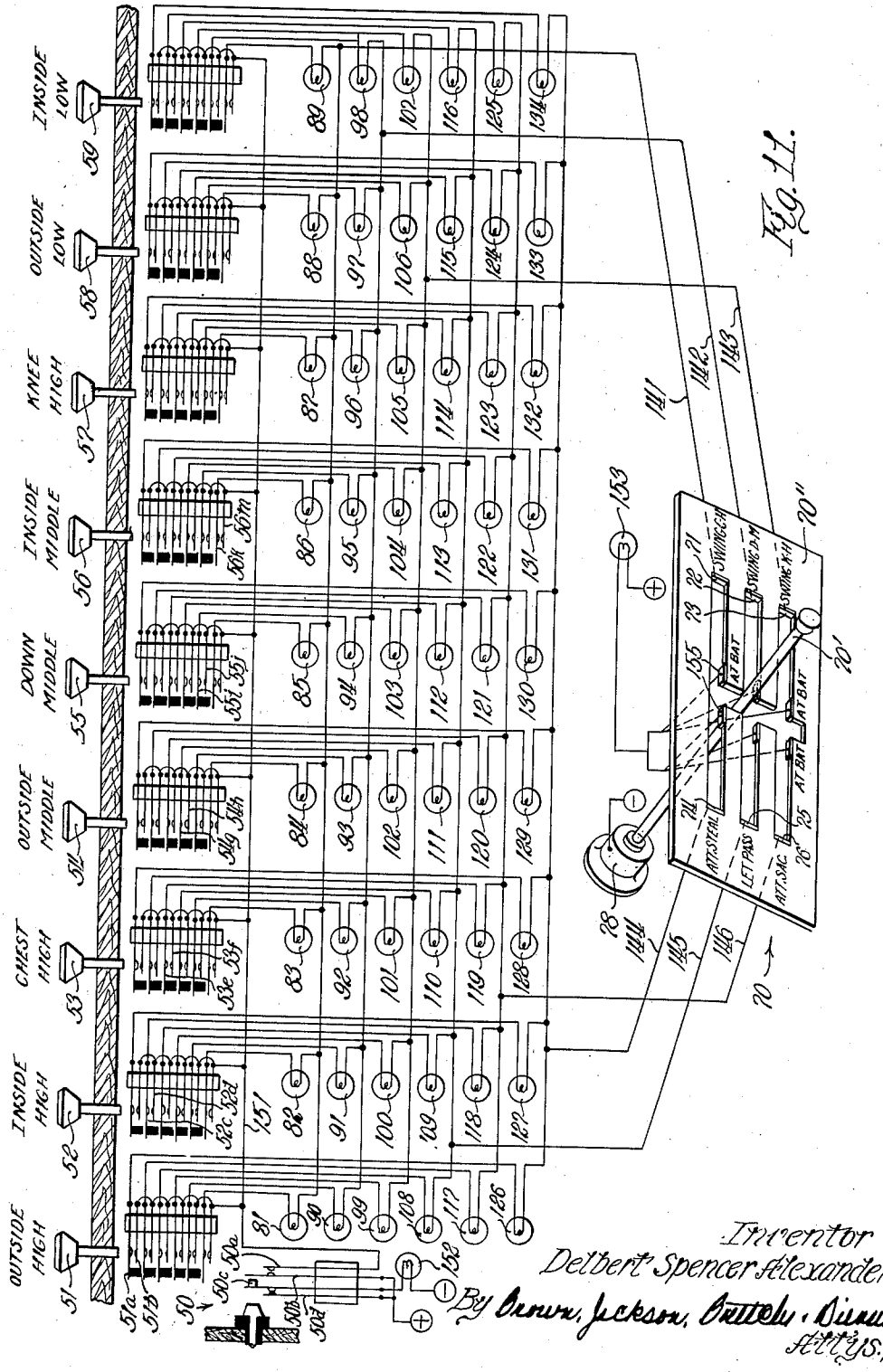


Fig. 11.

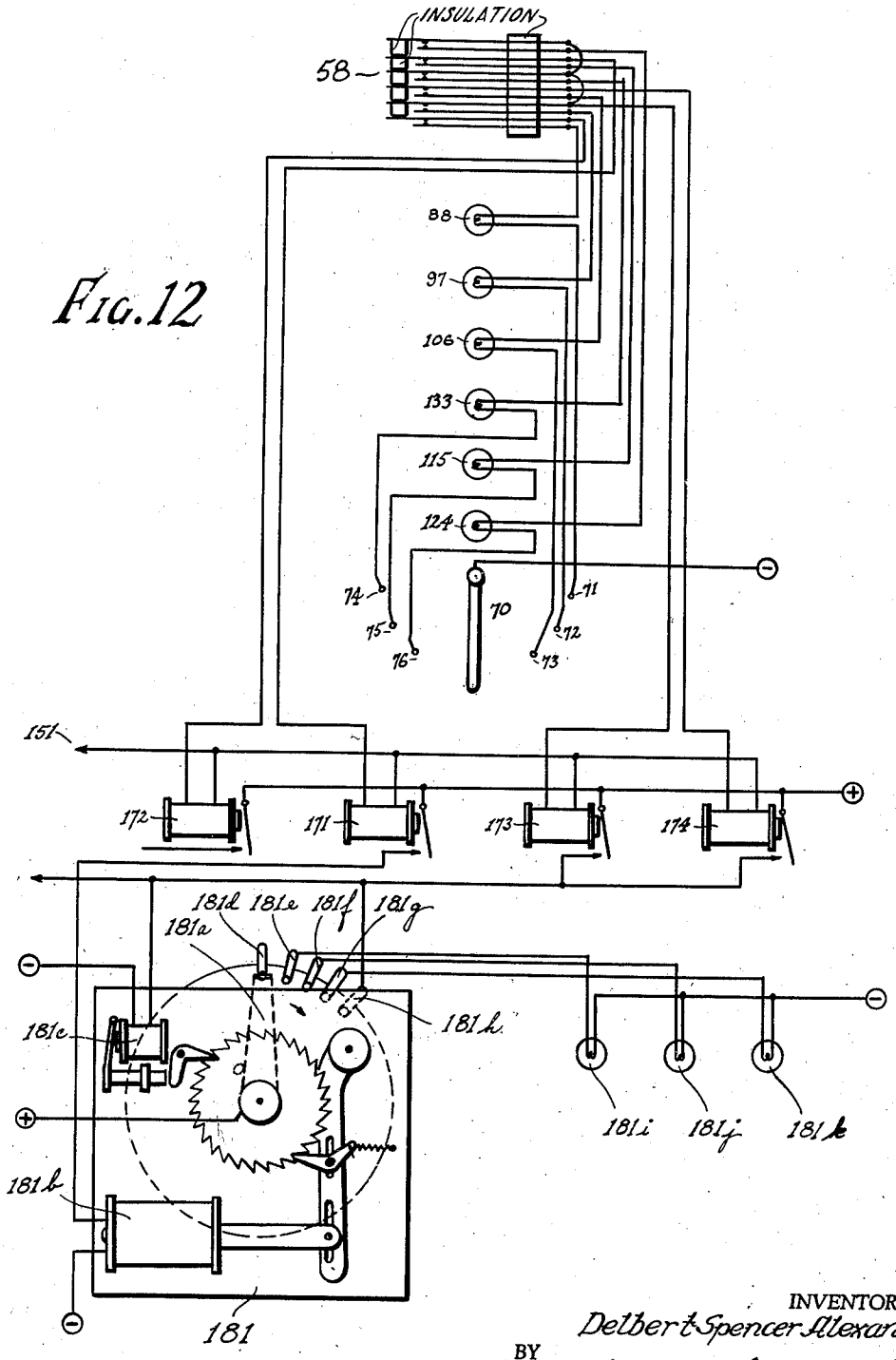
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BASEBALL GAME

Filed Sept. 8, 1938 11 Sheets-Sheet 10

FIG. 12



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BASEBALL GAME

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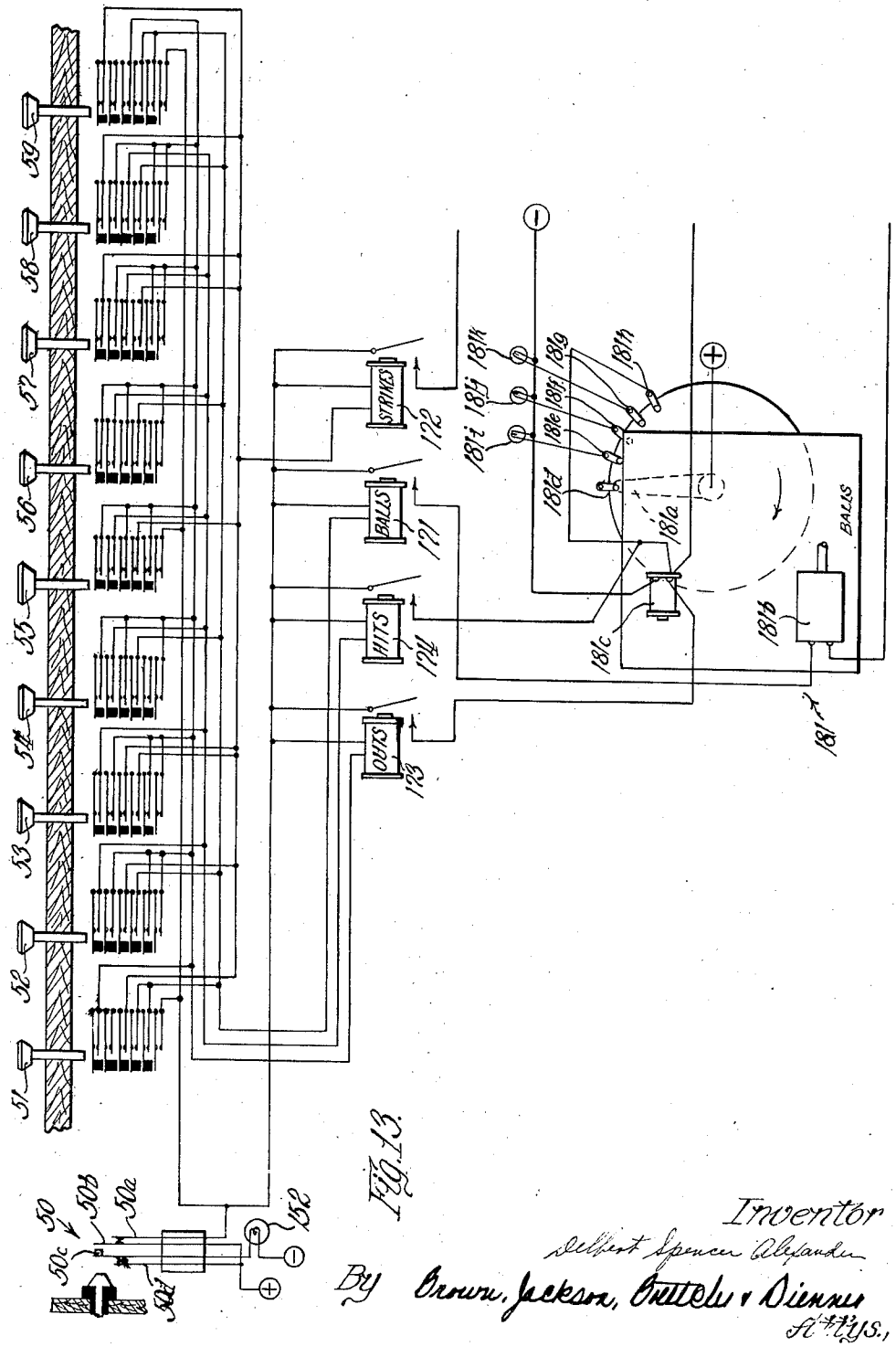


Fig. 13.

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Att'ys.

Patented Oct. 7, 1941

2,258,272

UNITED STATES PATENT OFFICE

2,258,272

BASEBALL GAME

Delbert Spencer Alexander, Evanston, Ill., assignor of one-half to James Turner Alexander, Jr., Evanston, Ill.

Application September 8, 1938, Serial No. 228,918

21 Claims. (Cl. 273—88)

The invention is an improvement in electrical methods of playing baseball whereby the game is played by two or more persons. One player "pitches" and the other player (or players) "bats." The pitcher has a selection of pitches from which he chooses each pitch he makes, and the batter has a selection of "swings," etc., from which he makes his choices. The pitcher "pitches" and the batter "swings" and the result is recorded on a paper playing field by light bulbs lighting under the field and shining through the paper, according to the selections made by the pitcher and batter. The primary object of the invention is to have the play of the game depend upon the skill of the players in making selections rather than upon luck due to mechanical design. The secondary object is to help a player of the real game develop a better batting average, because it is necessary for him to judge the opposing pitcher quite accurately in order to get a hit.

Other objects, features and advantages of the invention will appear from the following detail description taken in connection with the accompanying drawings illustrating several preferred embodiments of the invention. In these drawings:

Figure 1 is a perspective view of one form of the invention embodied in a horizontal, table type of device;

Figure 2 is the code chart followed throughout the construction of the game, illustrating the different plays resulting from the nine selections afforded the pitcher and the six selections afforded the batter;

Figure 3 is a simplified circuit diagram to show a typical play resulting from one selection made by the pitcher and one selection made by the batter;

Figure 4 is a fragmentary longitudinal sectional view through the cabinet or housing which encloses the working parts of the game;

Figure 5 is an elevational view of the playing field of the game, indicating the various indicia which are illuminated by the lighting of the lights;

Figure 5A is a plan view of the apertured top board to which the translucent sheet representing the playing field is secured;

Figure 5B is a fragmentary sectional view through one of the apertures in this top board, as represented by the section plane 5B—5B;

Figure 5C is a reduced diagrammatic plan view showing how the playing field sheet is secured to the apertured top board;

Figure 6 is a plan view of the projection board on which the light bulbs are placed and arranged;

Figure 6A is a vertical sectional view showing one of these light bulbs surrounded laterally by a reflector, this view corresponding to a section taken substantially on the plane of the line 6A—6A of Figure 6;

Figure 6B is a perspective view showing this relation of light bulb and reflector;

Figure 7 is a simplified circuit diagram showing how one of the batter's selection switches is wired to one circuit of each of the several pitcher's selection switches;

Figure 8 is another simplified circuit diagram showing how one of the pitcher's selection switches is wired to the six selections afforded the batter;

Figure 8A is a detail perspective view showing how the successive pairs of contact springs in each of the pitcher's selection switches is assembled together in insulated relation;

Figure 9 is a front elevational view showing the switch plate of the batter's selection switch;

Figure 9A is a horizontal sectional view through this plate, taken approximately on the plane of the line 9A—9A of Figure 9, and also diagrammatically illustrating the circuit connections from the nine pitcher's selection switches;

Figure 10 is a front elevational view of the plate or panel in which the pitcher's selection switches are mounted;

Figure 10A is a diagrammatic sectional view, taken approximately on the plane of the line 10A—10A of Figure 10, and illustrating two of the circuit connections responding to the pitcher's master control or "pitch" switch;

Figure 11 is a combined circuit diagram which incorporates in one figure the circuit connections shown in Figures 7 to 10A inclusive;

Figure 12 is a simplified circuit diagram illustrating the employment of automatically operated totalizing or registering means which may be employed in my improved game; and

Figure 13 is another diagram illustrating these circuit connections.

Figure 1 is a perspective of a model which gives a general view of the game. It is built to use six volt flashlight bulbs with a transformer. The end from which the batter plays is shown, while the pitcher plays from the opposite end. On the top is the playing field 31 on which the play of the game is recorded. The top 32 is hinged so that it may be raised for

interior service, and is covered with glass 33 to protect the paper playing field. Along one side is a set of auxiliary switches 34 to manually record the "men on base," and score. Detailed description of the construction and operation of the game is given hereinafter.

The fundamental principle of the selection system is shown in Figure 2. It is the code chart followed throughout the construction of the game. It also describes the method of playing and the results obtained. For example, the pitcher selects to pitch "chest high." The batter, we'll say, guesses the pitch to be "down the middle," or either side of the middle. He, therefore, selects to "swing down the middle." The corresponding result is a "fly out to center field." Had the batter selected to "swing chest-high," thereby guessing the pitch exactly, his accuracy would have been rewarded with a "triple to right field." Had he selected to "let pass," the pitch would have recorded as "strike chest-high," etc. The content of the code chart and the subsequent wiring are rearrangeable to make the play of the game closer or more open if desired.

The electrical application of the code chart principle is diagrammed in its simplest form in Figure 3. When the pitcher closes his "chest high" switch and the batter closes his "swing down the middle" switch, the circuit is completed, causing the "fly out to center field" bulb to light.

Figure 4 shows a cross-sectional diagram of the game and how the bulbs *b* are placed under the paper playing field 31 and enclosed in reflectors 41 so that the light from the bulbs is reflected to their corresponding play on the playing field above. Figure 5 shows the type of playing field used. It is of green paper with white lettering, while the base line is of white or brown paper with black lettering. There are no holes or perforations in the paper, only the lettering on its face.

Figure 5A illustrates the top 32 of the game on which the paper playing field 31 is pasted, Figure 5C. Openings 43 are cut in the top to permit the light from the bulbs to shine up through the playing field. The openings are cut so that they coincide with the corresponding play on the playing field. Just under the top is the projection board 44, Figure 6, on which the bulbs are placed and arranged. They are arranged from the same pattern that the openings 43 in the top 32 are cut. They, therefore, coincide with the openings when the top 32 is folded down over them, and project their light through the openings to the playing field. Each bulb and socket is enclosed in a reflector 41, as shown in Figure 6B, to focus the light to the play above it only, and is wired to correspond with that particular play.

This system of wiring, Figure 3, and bulb placement is used in wiring each play of the code chart, although the wiring of nine pitcher's selections and six batter's selections make it more elaborate, and necessitates the use of more competent switches as is shown in Figures 7 and 8 and described as follows:

Figure 7 shows how one of the contacts of the batter's selection switch 70 is wired to one circuit of each of the pitcher's switches 51 to 59, inclusive. Figure 8 shows in detail how one of the pitcher's selection switches is wired, diagrammatically, to the six selective positions 71 to 76, inclusive, of the batter's switch 70. Each of the nine pitcher's switches 51 to 59, inclusive, is capable of closing six separate circuits at once. Each of the six separate circuits of each pitcher's selection switches is wired to one of batter's six selections and has a light bulb on its circuit to correspond with the code chart of Figure 2. All contacts are insulated from each other at all times, Figure 8A, to prevent current from doubling back and forth, causing other bulbs to light when only one should. When the pitcher "pitches" by closing the switch, he closes six separate circuits, becoming vulnerable to any play made by batter. Whichever selection the batter makes, he closes the switch representing said selection, thus completing a circuit and causing the bulb on that particular circuit to light. For example: the pitcher selects to pitch "outside high," the batter guesses the pitch to be "chest high," therefore decides to "swing chest-high." The pitcher pitches by closing his "outside high" switch. The batter bats by closing his "swing chest-high" switch. The result is that the circuit with the "rightfield-fly out" bulb on it is completed, causing the bulb to light and project its light to the playing field at the designated spot as heretofore described and illustrated, Figure 4.

Figures 9 and 9A show the ultimate arrangement and operation of the batter's selection. He should be "at bat" before "the pitch"; then, after "the pitch" has been made, proceed along the slot he has chosen, completing the circuit at the end of the slot. When the batter is "at bat," the "at bat" bulb is burning—under home plate on the playing field, Figure 5, informing the pitcher that he is ready to receive "the pitch."

Figures 10 and 10A illustrate the pitcher's end of the game. "The pitch" is used to inform the batter that the pitcher has made his selection and has "pitched." It operates a make-and-break switch as diagrammed. A light bulb is burning under the pitcher's box on the playing field when nothing is being pitched. After the pitcher makes his selection and the batter is "at bat," he pushes in "the pitch," breaking the "in box" circuit and completing the positive connection wired to the selection switches below. When the "in box" bulb goes out the batter is informed that the pitch has been made.

Referring now to Figure 11, the push button that actuates the pitcher's master switch ("the pitch") is indicated at 50, and the nine push buttons that actuate the pitch selecting switches are indicated at 51 to 59, inclusive. These several push buttons are all mounted in a panel 61 disposed at one end of the playing cabinet, as shown in Figures 4 and 10. Considering now the batter's selecting switch, which is indicated generally at 70, this switch is disposed at the other end of the playing cabinet and comprises the actuatable switch element 70' which is movable horizontally and vertically within a slotted guide plate 70'' composed of insulating material. This guide plate has three horizontal righthand slots terminating in end contacts 71, 72, and 73, and also has three horizontal lefthand slots terminating in end contacts 74, 75, and 76. A vertical slot establishes communication between all of the horizontal slots. The inner end of the switch arm has any suitable universal joint mounting 78 for accommodating horizontal and vertical movement of the switch arm. The nine pitcher's selecting switches 51—59 and the six batter's selecting positions 71—76 control the selective energization of a series of lights 81 to 134.

As pointed out above in connection with Figures 7 to 10A inclusive, these lights are all connected together in a network of conductors extending

between the pitcher's selective switches 51—59 and the batter's selective switch 70. This network comprises six main conductors or busses 141 to 146, inclusive, which lead from the six end contacts 71 to 76, respectively, of the batter's selective switch 70. Each of the lights 81—134 has one terminal thereof connected with one of these main conductors or busses. Each of the pitcher's selective switches 51—59 comprises six pairs of coacting contact springs. In Figure 8, the six pairs of contact springs of the "outside high" selection switch 51 are illustrated, and in Figure 11 successive pairs of these springs are designated in connection with successive switches 51—59, these pairs being designated as follows: 51*a*—51*b*, 52*c*—52*d*, 53*e*—53*f*, 54*g*—54*h*, 55*i*—55*j*, and 56*k*—56*m*. The lights 81—134 are associated in groups with individual pitch selecting switches 51—59, one of the contact springs of each pair 51*a*—51*b*, etc., being connected with successive lights of this respective group of lights. All of the other contact springs of the successive pairs are multiple connected with a main feeder or bus 151. Thus, in Figure 11 it will be seen that the alternate contact springs 51*a*, 51*c*, 51*e*, 51*g*, 51*i*, and 51*k* are connected respectively with one terminal of each of the bank of lights, 81, 90, 99, 108, 117, and 126, respectively. The other alternate contact springs 51*b*, 51*d*, 51*f*, 51*h*, 51*j*, and 51*m* are all multiple connected with the feeder or bus conductor 151. This same connected relation applies to the other pitcher's selecting switches and their associated lights. All of the contact springs of one of the aforesaid groups in each switch are connected for simultaneous actuation through the mounting of insulating spacer blocks on these springs serving to transmit motion to adjacent springs, or through the use of a single insulating rod mechanically connecting all of these actuatable springs for simultaneous motion. The feeder 151 is connected through the contact springs 50*a* and 50*b* of the pitcher's master control switch 50 ("the pitch") with the battery or other source of current supply (+), see Figures 10A and 11. The other side of this source of current supply, represented as the negative side, is connected to "ground," such being represented either by the frame of the machine or by a ground wire. The contact springs 50*a* and 50*b* of the master switch 50 normally stand separated so that positive battery supply is not impressed upon the feeder leading to the pitcher's selecting switches 51—59 until after the master control switch 50 is pressed to its closed position. The circuit occurring through any one of the lights 81—134 is completed through the ground connection leading from the universal joint mounting 78 of the batter's movable switch member 70'. As shown in Figure 10A, the master switch 50 also comprises the two normally closed contact springs 50*c* and 50*d* which govern the circuit of the "in box" bulb 152. Similarly, the batter's readiness is indicated by the "at bat" bulb 153 (Figures 9A and 11) the circuit of which is completed through any one of a plurality of contacts 155 which are mounted on the guide plate 70'' of the batter's selecting switch 70, these contacts being disposed at the entrance end of the slots 71—76. When the batter is at bat, in readiness to receive the pitch, he holds the movable switch element 70' in engagement with the contact 155, at the entrance end of the slot that he has elected to play, thereby completing a circuit through the source of current supply B through bulb 153, contact 155, switch member 70' and ground through the universal joint mounting 78.

It will be understood that the lights 81—134 and the circuits have been graphically arranged in Figure 11 to facilitate an understanding of the circuit relations. For example, 54 individual lights are shown, grouped in columns and rows corresponding to the column and row grouping of the indicia shown in the chart of Figure 2. Thus, these two figures of the drawings can be read together, light 81 corresponding to "fly out to right field," light 82 corresponding to "single to right field," etc. Of course, in the installation of the lights beneath the playing field 31, those lights which represent actual flight of the ball from the bat, such as a hit, a fly-out, an infield out, a bunt, a foul, etc., are located at corresponding points of the playing field to graphically represent such flight of the ball. These may be regarded as a first series of lights and cooperating indicia designating plays in which the ball has been hit by the batter.

On the other hand, those lights which represent strikes, balls, etc., are located under the ruled or tabular areas 157 and 158 at the lower corners of the playing field, as shown in Figure 5. The "strike" tabular area 157 contains the left-hand column of strike indicia designated "chest high," "down middle," and "knee high," these being adapted to be respectively illuminated by the lights 110, 112, and 114. The righthand indicia in this same area, designated "swung and missed" can be arranged to be illuminated by six separate lights 87, 88, 89, 99, 100, and 101, or one light may be wired to function for the three lights 87, 88, and 89, and another light may be wired to function for the other three lights 99, 100, and 101. The "ball" tabular area 158 contains the ball indicia "inside high," "inside middle," and "inside low," these three being illuminated respectively by the lights 109, 113, and 116; and this tabular area also contains the indicia "outside high," "outside middle," and "outside low," which three areas are illuminated respectively by the lights 108, 111, and 115. It will be seen from the foregoing that whenever the play is a called strike or a swung and missed strike, there will be an indication or momentary record of such play at the tabular area 157, and, in the case of a called strike, the indication or record will designate whether the strike was chest high, down the middle, or knee high with respect to the height of the batter. Similarly, it will also be seen that whenever the play is a called ball, an indication or temporary record is flashed at the tabular area 158 designating any one of six different locations of the pitch with respect to the plate and with respect to the height of the batter. The above described lights and tabular areas 157 and 158 may be regarded as a second series of lights and cooperating indicia designating called strikes, swung-and-missed strikes, and balls, and also serving to indicate the location of the called strikes and balls relatively to the batter and to the plate.

The use of six separate pairs of contact springs, such as the springs 51*a*—51*b*, 51*c*—51*d*, etc., for each of the nine pitcher's selecting switches 51 to 59, inclusive, is advantageous for several reasons. For example, in lieu of using the six bulbs 87, 88, 89, 99, 100, and 101, for illuminating the "swung and missed" indicia of the tabular area 157, such can be done by two

lights, one to take the place of lights 87, 88, and 89, and the other to take the place of lights 99, 100, and 101, without causing short circuits or otherwise interfering with the circuit network. Furthermore, this use of six separate pairs of contact springs in each switch 51—59 enables rotary switches to be readily connected into the system in situations where it is desired that a record of the outs, balls, strikes, etc., be automatically maintained during the play of each inning, as hereinafter described in connection with Figures 12 and 13.

When a base hit or walk is made, a simple "off-and-on" toggle switch 34, heretofore shown in Figure 1, is manually operated to light the bulbs under the particular base. The scoring system is likewise manually operated. It comprises a tabular area 159 which is adapted to be illuminated under any one or more of the four numbers 1, 2, 4, and 8, so as to be capable of registering up to fifteen runs, Figure 5. The numbers desired that are not listed are obtained by combinations of those listed. For example: if three runs have scored, both the 1 and 2 would be "on"; if four runs score, only the 4 would be "on"; if seven score, the 1, 2, and 4 would be "on"; etc. The "balls," "strikes" and "outs" can be manually operated in the same manner as just described for the "men-on-base." They also can be automatically registered by electromagnetic step-up relays as each ball, strike, or out is made, as is diagrammed in Figure 12 and described herein as follows:

Figure 12 shows how the outlets for the pitcher's selection switches 51—59 are wired to respective A. C. relays 171, 172, 173, etc., before being wired to "the pitch" switch 50, instead of being wired directly as diagrammed in preceding figures. This figure diagrammatically illustrates the operation of the automatic registering of the "balls." We'll say the pitcher has pitched "outside low" (his switch 58) and the batter decides to "let pass" (his switch contact 75). The play records on the playing field as a "ball-outside low" (light 115) and at the same time energizes the "balls" A. C. relay 171. This in turn closes the circuit to the step-up solenoid 181*b* of the "balls" rotary switch 181, causing the rotating switch arm 181*a* of that rotary switch to mechanically move to the "ball-one" contact. This rotating switch arm 181*a* is connected to the positive and the contacts are wired to their respective bulbs, then to the negative, completing the circuit. After the play is made and the pitcher and batter release "the pitch" switch 50 and the "bat" switch 70 respectively, ball 1 will be registered on the playing field and will remain lighted until another "ball" is made, thereby stepping the relay to "ball 2," etc., or until a "hit" or "out" is made, which will automatically reset the relay as mentioned hereinafter. The fourth ball contact is wired to the "balls" reset solenoid 181*c* and automatically resets the rotary switch 181 back to its home position.

The "strikes" and "outs" are wired principally the same, except that the third strike not only resets the "strikes" rotary switch 182, but is wired to the step-up solenoid 183*b* of the "outs" rotary switch 183, which in turn registers an out. The "outs" rotary switch requires two A. C. relays, one, 173, for closing the circuit to the "outs" step-up solenoid 183*b*, and another, 175, to reset the "balls" and "strikes" as illustrated. The reason for using two separate A. C. relays 173 and 175 is to prevent the fourth ball and "hits" from recording as outs. The A. C. relay 174 energized by "hits" merely resets the "balls" and "strikes" rotary switches. For example, suppose there are two strikes and one ball on the batter. The pitcher selects to pitch "outside low." The batter, expecting the pitch to be low, "swings knee-high." The result is a "single-to-leftfield." This, being a hit, causes the "hit" A. C. relay 174 to close the circuit that resets the "balls" and "strikes" rotary switches 181 and 182, leaving the game ready for the next batter.

The automatic registering system illustrated in Figures 12 and 13 is similar to the manual registering system illustrated in Figures 7–11 except that instead of having positive polarity conducted from the pitch switch 50 directly to the alternate contacts of the series of spring contacts 51*a*—59*m*, this positive polarity is compelled to pass from said pitch switch 50 through the windings of the relays 171, 172, 173, 174, etc., before making connection with any of the spring contacts 51*a*—59*m*. Each of said relays has multiple connection with the appropriate spring contacts 51*a*—59*m* which are related to the function of that relay. For example, the "balls" relay 171 has multiple connection through pitcher's selection switch 51 with lights 103 and 117; through selection switch 54 with light 111; through selected switch 56 with light 113; through selection switch 58 with light 115; and through selection switch 59 with lights 116 and 125. Each of these lights denotes a "ball," as shown in Figures 2 and 5, and hence upon the illumination of any one of said lights the "balls" relay 171 must be energized to advance the "balls" rotary switch 181 one step. What has been said above regarding this "balls" relay, also applies to the "strikes" relay 172, the "outs" relays 173 and 175; and the "hits" relay 174, each having its winding connected in multiple through the contact springs 51*a*—59*m* with the particular lights which represent the functions or values individual to those relays. For example, all lights representing "strikes" would then have multiple connection through appropriate contacts 51*a*—59*m* with the "strikes" relay 172, etc. In Figure 13 the pitcher's selection switches 51—59 are shown in the same relation as in Figure 11, except that the circuit connections leading from the aforementioned spring contacts through the lights 81—134 to the batter's selection switch 70 have been omitted in order to avoid obscuring the illustration. Thus, the electrical connections from all of the alternate contacts 51*a*, 52*a*, 53*a* . . . 51*c*, 52*c*, 53*c*, etc., have been omitted. Of course, it will be understood that the three "ball" lights 181*i*, 181*j*, and 181*k* are located under the (1) (2) and (3) indication of the "ball" tabular area 158, as shown in Figure 2. As previously remarked, the advancement of the switch arm 181*a* to the fourth ball contact 181*h* energizes the reset solenoid 181*c* and resets the "balls" rotary switch 181, and such energization of the reset solenoid 181*c* also resets the "strikes" rotary switch.

I am aware that prior to my invention electrical methods of playing baseball have been invented; therefore, I do not claim to be the originator of electric baseball games, broadly; but I claim:

1. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia designating plays in

which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes, swung and missed strikes, and balls, said lights and cooperating indicia indicating the location of said called strikes and said balls relatively to the height of the batter and to the width of the plate, a plurality of pitcher's selection switches representing throws pitched to the batter at different positions relatively to the height of the batter and to the width of the plate, each of said selection switches being of push button type comprising a multiplicity of pairs of contacts adapted upon closing of the respective switch to engage with each other in circuit closing pairs maintained out of contact with adjacent pairs, a pitcher's master switch controlling the energization of all of said pitcher's selection switches, an "In box" signal, contacts responsive to said pitcher's master switch for controlling said "In box" signal, a batter's selection switch comprising a vertically and laterally movable switch handle and a guide member having a plurality of notches therein for guiding the motion of said handle to different circuit closing positions representing different plays by the batter including swings at different heights above the plate, an "At bat" signal, contacts at the entrance ends of said notches adapted to be engaged by said switch handle to energize said "At bat" signal, and contacts at the far ends of said notches adapted to be engaged by said switch handle to energize said first and second series of lights, and an electrical network connecting said pitcher's selection switches and said batter's selection switch with said lights whereby appropriately related pitches and swings will illuminate appropriate lights of said first series, and whereby the location of called strikes and balls relatively to the batter and to the plate will be indicated by appropriate lights of said second series.

2. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and called balls and indicating the location of said strikes and balls relatively to the height of the batter and to the width of the plate, a plurality of pitcher's selection switches representing throws pitched to the batter at different positions relatively to the height of the batter and to the width of the plate, each of said selection switches being of push button type comprising a multiplicity of pairs of contacts adapted upon closing of the respective switch to engage with each other in circuit closing pairs maintained out of contact with adjacent pairs, a pitcher's master switch electrically connected with one of the contacts of each cooperating pair of contacts in each pitcher's selecting switch, the other contacts of each cooperating pair being connected with appropriate lights of said first and second series of lights, a batter's selection switch comprising a vertically and laterally movable switch handle and a guide member having a plurality of notches therein for guiding the motion of said handle to different circuit closing positions representing different plays by the batter including swings at different heights above the plate, an "At bat" signal, contacts at the entrance ends of said notches adapted to be engaged by said switch handle to energize said "At bat" signal, and contacts at the far ends of said notches adapted to be engaged by said switch handle to energize said first and second series of lights, and electrical conductors connecting the contacts of said batter's selection switch with said lights whereby appropriately related pitches and swings will illuminate appropriate lights of said first series, and whereby the location of called strikes and balls relatively to the batter and to the plate will be indicated by appropriate lights of said second series.

3. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and called balls and indicating the location of said strikes and balls relatively to the height of the batter and to the width of the plate, a plurality of pitcher's selection switches representing throws pitched to the batter at different positions relatively to the height of the batter and to the width of the plate, each of said selection switches being of push button type comprising a multiplicity of pairs of contacts adapted upon closing of the respective switch to engage with each other in circuit closing pairs maintained out of contact with adjacent pairs, a pitcher's master switch controlling the energization of all of said pitcher's selection switches, an "In box" signal, contacts responsive to said pitcher's master switch for controlling said "In box" signal, a plurality of batter's selecting switch contacts representing different plays by the batter including swings at different heights relatively to the plate, and an electrical network connecting the pitcher's selection switches and said batter's selecting switch contacts with said lights whereby appropriately related pitches and swings will illuminate appropriate lights of said first series, and whereby the location of called strikes and balls relatively to the batter and to the plate will be indicated by appropriate lights of said second series, said second series of lights and said network cooperating with said pitcher's selection switches and with said batter's selecting switch contacts to indicate whether the pitch is a ball or a strike when the batter chooses to let the pitch pass.

4. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board to designate plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia associated with said board designating called strikes and balls and indicating the location of said strikes relatively to the height of the batter or to the width of the plate, a plurality of pitcher's selecting switch contacts representing throws pitched to the batter at different heights relatively to the batter or at different lateral positions relatively to the plate, a plurality of batter's selecting switch contacts representing different plays by the batter including swings at different heights relatively to the plate, and an electrical network connecting said pitcher's selecting switch contacts and said batter's selecting switch contacts with said lights in a permanent relation whereby the plays resulting from the batter hitting the ball are positively predetermined in accordance with the law of averages applicable to the loca-

tion of the pitch as selected by the pitcher's selecting switch contacts and the location of the swing as selected by the batter's selecting switch contacts, and whereby the location of called strikes and balls relatively to the batter or to the plate will be indicated by the illumination of appropriate lights of said second series when the batter chooses to let the pitch pass.

5. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and balls and indicating the location of said strikes and balls relatively to the plate or to the batter when the batter chooses to let the pitch pass, pitcher's selective switch means representing throws pitched to the batter at different positions relatively to the plate or to the batter, batter's selective switch means representing swings by the batter at different positions relatively to the plate, and an electrical network connecting said pitcher's selective switch means and said batter's selective switch means with said lights in a permanent relation whereby the plays resulting from the batter hitting the ball are positively predetermined in accordance with the law of averages applicable to the location of the pitch as selected by the pitcher's selective switch means and the location of the swing as selected by the batter's selective switch means, and whereby the location of called strikes and balls relatively to the plate or to the batter will be indicated by the illumination of appropriate lights of said second series.

6. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and balls and indicating the location of said strikes and balls relatively to the plate or to the batter when the batter chooses to let the pitch pass, a pitcher's selective switch means representing various throws, a batter's selective switch means representing various swings, and a permanently related network of electrical connections between both of said switch means and said lights for causing said lights to operate in accordance with a positively predetermined code which is dependent solely upon the positions into which the pitcher's selective switch means and said batter's selective switch means are moved.

7. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and balls and indicating the location of said strikes and balls relatively to the plate or to the batter, pitcher's selective switch means representing throws pitched to the batter at different positions relatively to the plate or to the batter, batter's selective switch means representing swings by the batter at different positions relatively to the plate, one of said selective switch means comprising a vertically and laterally movable switch handle and a guide member having a plurality of notches therein for guiding the motion of said handle to different circuit closing positions, and an electrical network connecting said pitcher's selective switch means and said batter's selective switch means with said first and second series of lights, whereby the plays resulting from the batter hitting the ball are predetermined in accordance with the law of averages applicable to the actual game.

8. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a series of lights and related indicia associated with said board designating different plays including the pitching of called strikes and balls and the indication of the location of these strikes and balls relatively to the plate when the batter chooses to let the pitch pass, and pitcher's selective switch means and batter's selective switch means having cooperative electrical connection with said lights in such relation that the plays resulting from the batter hitting the ball are predetermined in accordance with the law of averages applicable to the actual game.

9. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia associated with said board designating called strikes and balls and indicating the location of said strikes and balls relatively to the plate or to the batter, a plurality of pitcher's selection switches representing throws pitched to the batter at different positions relatively to the plate or to the batter, each of said selection switches being of push button type comprising a plurality of pairs of contacts adapted upon closing of the respective switch to engage with each other in circuit closing pairs maintained out of contact with adjacent pairs, a pitcher's master switch controlling the energization of all of said pitcher's selection switches, batter's selective switch means representing swings by the batter at different positions relatively to the plate, an electrical network connecting said pitcher's selection switches and said batter's selective switch means with said lights whereby appropriately related pitches and swings will illuminate appropriate lights of said first series, and whereby the location of called strikes and balls relatively to the batter and to the plate will be indicated by the illumination of appropriate lights of said second series, relay means electrically connected with a plurality of contacts of the pairs of contacts included in said pitcher's selection switches, rotary switch means responsive to said relay means, and totalizing means responsive to said rotary switch means for totalizing the ball count on each batter.

10. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and balls and indicating the location of said strikes and balls relatively to the plate or to the batter, pitcher's selective switch means representing throws pitched to the batter at different positions relatively to the plate or to the batter, batter's selective switch means representing swings by the batter at different positions relatively to the plate, an electrical network con-

necting said pitcher's selective switch means and said batter's selective switch means with said lights whereby appropriately related pitches and swings will illuminate appropriate lights of said first series, and whereby the location of called strikes and balls relatively to the plate or to the batter will be indicated by the illumination of appropriate lights of said second series, relay means electrically connected with said pitcher's selective switch means, rotary switch means responsive to said relay means, and totalizing means responsive to said rotary switch means.

11. In a baseball game of the class described, the combination of pitcher's selecting switch means representing the throwing of the ball to different selected locations relative to the batter, batter's selective switch means representing the swinging of the bat at different positions, one of said selective switch means comprising a switch lever movable in separate planes substantially at right angles to each other for the selective control of a multiplicity of circuits and indicating means conjointly responsive to both of said selecting switch means.

12. In a baseball game of the class described, the combination of pitcher's selecting switch means representing the throwing of the ball to different selected locations relative to the batter, batter's selective switch means representing the swinging of the bat at different positions, and automatic totalizing means responsive to said switch selecting means.

13. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a first series of lights and cooperating indicia associated with said board designating plays in which the ball has been hit by the batter, a second series of lights and cooperating indicia designating called strikes and balls and indicating the location of said strikes and balls relatively to the plate or to the batter, pitcher's selective switch means representing throws pitched to the batter at different positions relatively to the plate or to the batter, batter's selective switch means representing swings by the batter at different positions relatively to the plate, and an electrical network connecting said pitcher's selective switch means and said batter's selective switch means with said lights, which network, in effect, connects said lights in a series of columns and in a series of rows, the conductors establishing the column relation being connected to said pitcher's selective switch means, and the conductors establishing the row relation being connected to said batter's selective switch means.

14. In a baseball game of the class described, the combination of pitcher's selective switch means, batter's selective switch means, one of said switch means comprising a switch lever movable in separate planes substantially at right angles to each other for establishing selective engagement with a plurality of contacts, a multiplicity of lights adapted to respond to said switch means, and a connecting network between both of said selective switch means and said lights, which, in effect, connects said lights in a series of columns and in a series of rows, the conductors establishing the column relation being connected to said pitcher's selective switch means, and the conductors establishing the row relation being connected to said batter's selective switch means.

15. In a baseball game of the class described, the combination of pitcher's selective switch means, batter's selective switch means, one of said switch means comprising a switch lever movable in separate planes substantially at right angles to each other for establishing selective engagement with a plurality of contacts, a multiplicity of lights adapted to respond to said switch means, and a connecting network between both of said selective switch means and said lights, which, in effect, connects said lights in a series of columns and in a series of rows.

16. In a baseball game of the class described, the combination of pitcher's selective switch means selectively operable to represent throws pitched to the batter at different positions relatively to the plate or to the batter, batter's selective switch means selectively operable to represent swings by the batter at different positions relatively to the plate, a multiplicity of lights adapted to respond to said switch means, one of said lights designating "strikes," and an electrical network connecting said pitcher's selective switch means and said batter's selective switch means with said lights in a permanent relation whereby the plays resulting from the batter hitting the ball are positively predetermined in accordance with the law of averages applicable to the location of the pitch and to the location of the swing as selected by the aforesaid switch means, and whereby the energization of said light designating "strikes" only occurs when the play is a "strike," as distinguished from a "ball" or a hit ball.

17. In a baseball game of the class described, the combination of a wood game board having a series of holes cut therethrough in predetermined locations, a supporting surface below said game board, a plurality of electric lights mounted on said supporting surface and positioned below said holes to project light rays upwardly therethrough, reflectors associated with said lights for confining the light rays to predetermined holes, an imperforate sheet of paper pasted over the top surface of said game board and closing the upper ends of said holes, said sheet having play designating legends lettered thereon so as to be illuminated by the light rays coming up through said holes, pitcher's selective switch means representing throws pitched to the batter at different positions relatively to the plate or to the batter, batter's selective switch means representing swings by the batter at different positions relatively to the plate, and an electrical network connecting said pitcher's selective switch means and said batter's selective switch means with said electric lights.

18. In a baseball game of the class described, the combination of a game board having a series of holes therethrough at predetermined locations, a plurality of electric lights positioned below said holes to project light rays upwardly therethrough, reflectors associated with said lights for confining the light rays to predetermined holes, a sheet of translucent material extending across the top surface of said game board and over said holes, said sheet having play designating legends lettered thereon so as to be illuminated by the light rays coming up through said holes, and pitcher's selective switch means and batter's selective switch means electrically connected with said lights to cause different lights to be illuminated for representing different plays.

19. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a plurality of electric lights associated with said playing field for indicating different plays, a plurality of pitcher's

selection switches representing throws pitched to the batter at different positions relatively to the height of the batter and to the width of the plate, each of said selection switches being of push button type comprising a plurality of separate light selecting contacts and coacting energizing contacts, the light selecting contacts of each switch remaining in separated open-circuit relation when the selecting switch is in its normal position, and being all engaged with said energizing contacts when the selecting switch is in its closed position, a pitcher's master switch electrically connected in series between the source of working potential and the energizing contacts of all of said pitcher's selection switches, whereby the completion of any circuit through any one of said pitcher's selection switches requires that the pitcher's master switch be closed simultaneously with the selected pitcher's selection switch, a batter's selection switch comprising a vertically and laterally movable switch handle having universal joint mounting at its inner end, and a guide member having a plurality of notches therein for guiding the motion of the outer portion of said handle to different circuit closing positions representing different plays by the batter including swings at different heights above the plate, an "At bat" signal, entrance contacts at the entrance ends of said notches connected to energize said "At bat" signal when engaged by said switch handle, light selecting contacts at the far ends of said notches adapted to be engaged by said switch handle, and a permanently related network of electrical connections between said electric lights and the light selecting contacts of said pitcher's selecting switches and the light selecting contacts of said batter's selecting switch.

20. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a plurality of electric lights associated with said playing field for indicating different plays, a plurality of pitcher's selection switches representing throws pitched to the batter at different positions relatively to the height of the batter and to the width of the plate, each of said selection switches being of push button type comprising a plurality of separate light selecting contacts and coacting energizing contacts, the light selecting contacts of each switch remaining in separated open circuit relation when the selecting switch is in its normal position, and being all engaged with said energizing contacts when the selecting switch is in its closed position, a pitcher's master switch electrically connected in series between the source of working potential and the energizing contacts of all of said pitcher's selection switches, whereby the completion of any circuit through any one of said pitcher's selection switches requires that the pitcher's master switch be closed simultaneously with the selected pitcher's selecton switch, a batter's selection switch comprising a vertically and laterally movable switch handle having universal joint mounting at its inner end, and a guide member having a plurality of notches therein for guiding the motion of the outer portion of said handle to different circuit closing positions representing different plays by the batter including swings at different heights above the plate, light selecting contacts in said notches adapted to be engaged by said switch handle, and a network of electrical connections between said electric lights and the light selecting contacts of said pitcher's selecting switches and the light selecting contacts of said batter's selecting switch.

21. In a baseball game of the class described, the combination of a game board having a playing field marked thereon, a plurality of electric lights associated with said playing field for indicating different plays, a plurality of pitcher's selection switches representing throws pitched to the batter at different positions relatively to the height of the batter and to the width of the plate, each of said selection switches being of push button type comprising a plurality of separate light selecting contacts and coacting energizing contacts, the light selecting contacts of each switch remaining in separated open circuit relation when the selecting switch is in its normal position, and being all engaged with said energizing contacts when the selecting switch is in its closed position, a pitcher's master switch electrically connected in series between the source of working potential and the energizing contacts of all of said pitcher's selection switches, whereby the completion of any circuit through any one of said pitcher's selection switches requires that the pitcher's master switch be closed simultaneously with the selected pitcher's selection switch, a batter's selection switch comprising a vertically and laterally movable switch handle having universal joint mounting at its inner end, and a guide member having a plurality of notches therein for guiding the motion of the outer portion of said handle to different circuit closing positions representing different plays by the batter including swings at different heights above the plate, light selecting contacts in said notches adapted to be engaged by said switch handle, a network of electrical connections between said electric lights and the light selecting contacts of said pitcher's selecting switches and the light selecting contacts of said batter's selecting switch, a relay having its winding connected in series between said pitcher's master switch and a plurality of the energizing contacts of said pitcher's selecting switches, a step-up solenoid responsive to the armature of said relay, a rotary switch adapted to be advanced by said step-up solenoid, and totalizing means responsive to said rotary switch.

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