March 3, 1964 N. PECKHAM 3,123,360

ELECTRICALLY OPERATED FOOTBALL GAME

Filed June 7, 1962

2 Sheets-Sheet 1

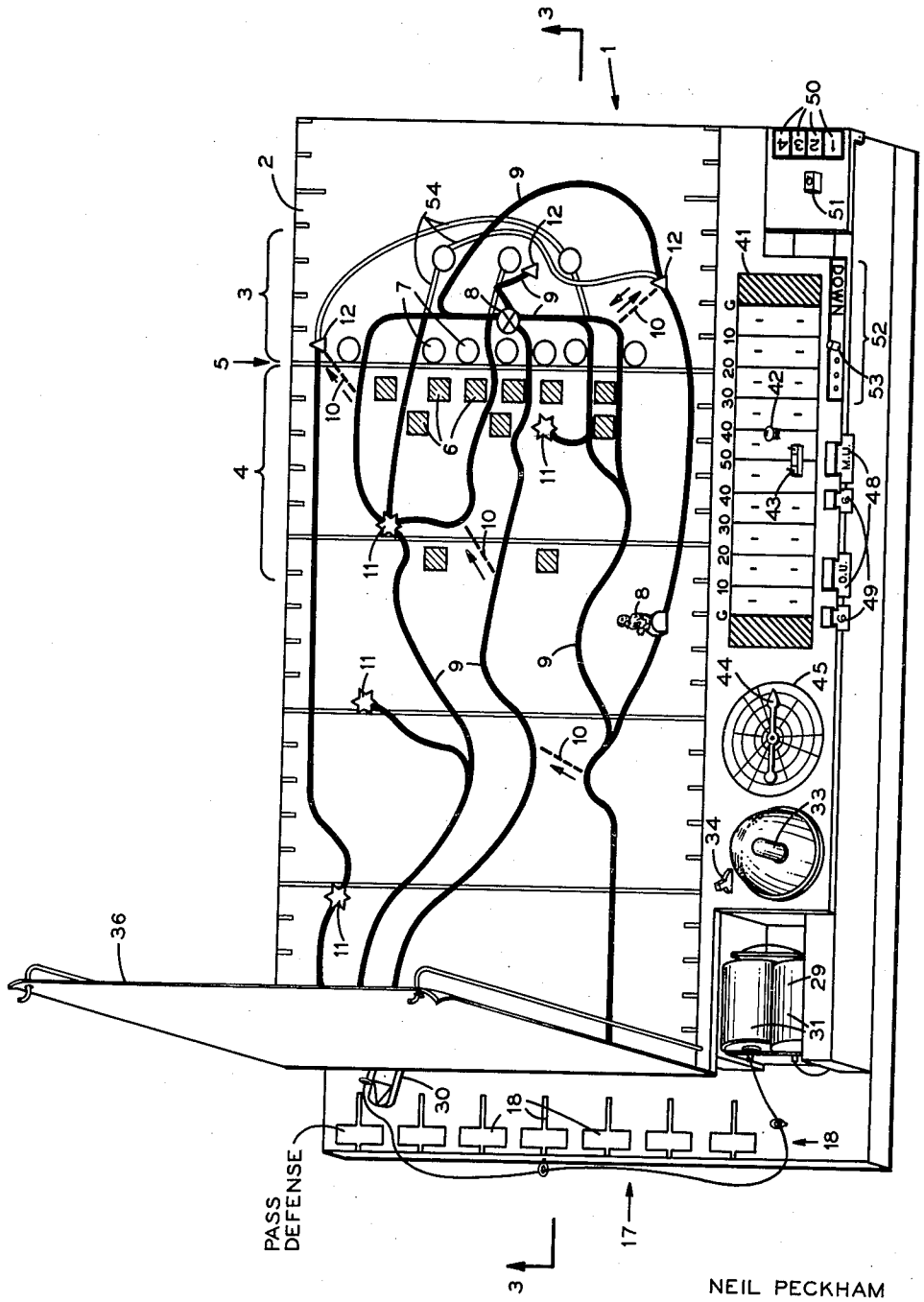


FIGURE 1

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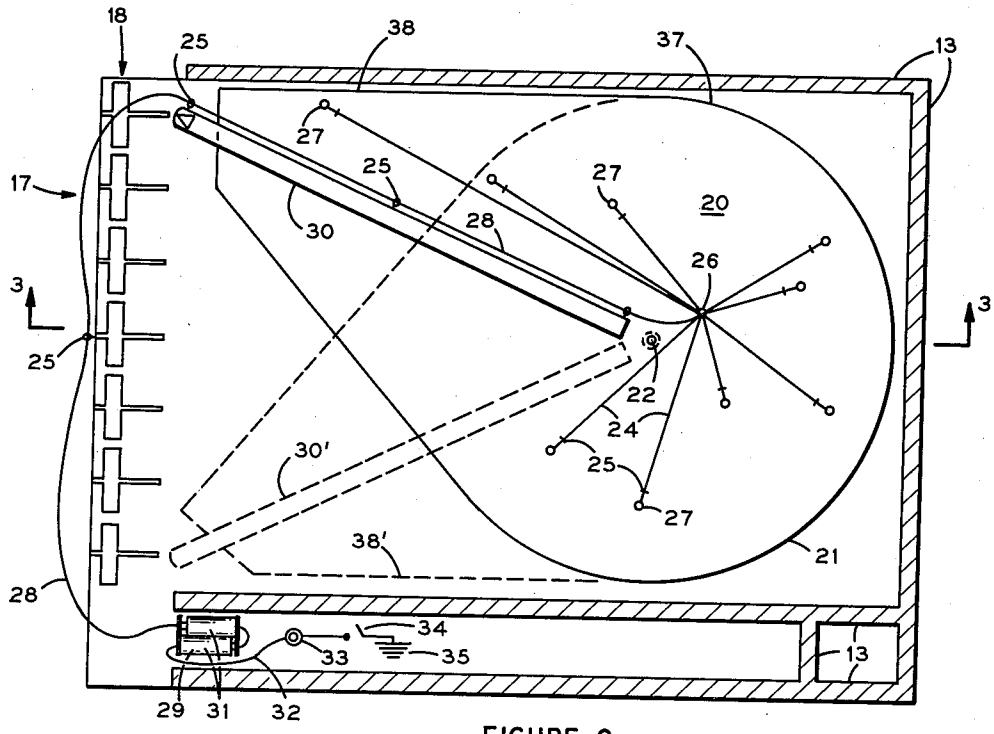


FIGURE 2

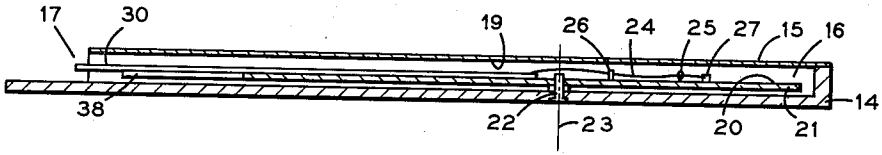


FIGURE 3

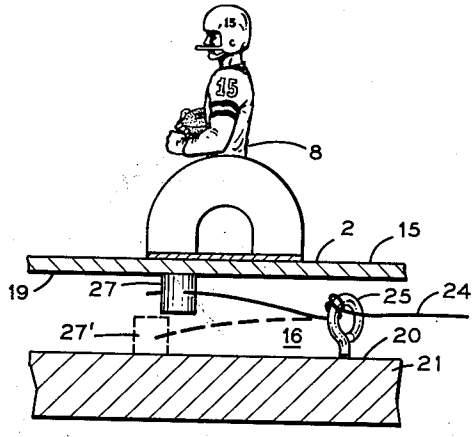


FIGURE 4

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3,123,360

ELECTRICALLY OPERATED FOOTBALL GAME

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5 Claims. (Cl. 273—94)

The present invention relates to games, in particular games involving the relative advancement of an offensive team or group towards a goal defended by a defensive team, and vice versa. It is described and detailed herein with respect to a football game, but, as will be apparent, is equally applicable to other games such as basketball, soccer, etc., and to non-athletic games such as war games, peace games, etc.

There are a number of games available to simulate football and similar athletic encounters, but none comparable to and having the simplicity of the structure described herein. Thus it is old to use a moving player mounted on a magnet with poles extending their fields either parallel to the surface of the playing field, as in Wolf, 2,528,938, or normal to such surface, as in Field, 2,616,696, or Winter, 2,263,115. The present invention is similar to the latter type game in that it utilizes a moving player forming part of a magnetic circuit passing through such player normal to the surface field of the game, but differs therefrom in that the present invention utilizes a magnetic field emanating from the moving player to complete an electrical circuit.

The object of the present invention is to provide a relatively simple team type game in which the moving player piece on one team moves toward a goal until halted by activating an alarm in an electrical circuit closed by the moving piece.

Another object is to provide a relatively unsophisticated game suitable for use by human players of even quite tender years in which one team attempts to move to a goal defended by a second team, and in which the offensive action is simulated by advancing a player to such goal while the defensive action is simulated by interposing scattered, concealed barriers in the path of such player.

A further object is to provide such a game in which the moving player is mounted on a magnet providing a field normal to the playing surface and said barriers comprise pivotably mounted connectors concealed below such playing surface, such connectors being both electrically and magnetically conductive, and being actuable by such offensive player when approximately therebelow to close an electrical circuit including an alarm member simulating a halt to the advance.

The above and other objects are achieved in the present invention by providing a structure in the general shape of a rectangular parallepiped of a comparatively broad length and width but small thickness, e.g., one inch, and thus suitable for use on a folding card table or any table top. This structure includes a top member and sides supporting the top from the table surface to define a space in which is disposed a pivotably mounted member rotatable about a vertical axis, such member being of a non-conductive material such as wood or a lightweight formed plastic.

The top member or panel includes a game surface on which are painted or otherwise impressed markings to indicate a portion of a playing field and various auxiliary devices to be described below. This top panel includes portions defining paths of a material which is electrically conductive but not magnetically conductive, and for simplicity may be entirely formed of such material, e.g., aluminum.

The rotatable member or wheel is disposed beneath the top panel to define a vertical gap therewith, and

carries on its upper surface a multiplicity of individually pivotable connectors terminating a like number of parallel electrical circuits from a battery disposed in a suitable pocket at one side of the game structure and grounded to the top panel. These connectors are loosely mounted on the wheel surface so that when not activated there is a small gap from the top of each to the nether side of the top panel, and they are made of a material which is both electrically and magnetically conductive. When any connector becomes vertically aligned with a magnetic ball carrier as the latter is moved over the upper surface of the top panel, it is picked up by the magnetic attraction of the ball carrier and contacts the nether surface of the top panel, closing an electrical circuit which includes an alarm indicating a halt in the ball carrier's advance.

The construction and manner of using the present invention may be best understood by reference to the enclosed drawing, in which:

FIGURE 1 is a perspective view from the top and front of an embodiment of a football game,

FIGURE 2 is a plan view of the embodiment of FIGURE 1 with the top panel removed,

FIGURE 3 is a longitudinal vertical section on lines 3—3 of FIGURES 1 and 2, and

FIGURE 4 is a partial vertical section similar to that of FIGURE 3, illustrating the principle of the game.

Referring now to FIGURE 1, it may be seen that the larger part of the game surface 1 consists of a portion of a football playing field 2 in which an offensive team 3 and a defensive team 4 are in proper positions at a line of scrimmage 5 preparatory to a play, the offensive players being represented by unshaded circles 7 while the defensive players are simulated by shaded squares 6. In the simulated action to be described, none of the defensive players 6 actually move, and they are represented on playing surface 2 by painted or stamped impressions which simply indicate the positions of the players when play commences, although depressed spots in the playing field may be provided, and miniature figures added to furnish a note of realism; the same is true of all offensive players 7 except that indicated by the circle marked with an "X", which is the initial position of the one player piece 8 actually moved by the human player cast in the offensive role, the ball carrier.

Below game surface 1 and not visible to either human participant is a non-conductive member or wheel 21 rotatable about axis 23 of pin 22 (See FIGURES 2 and 3). The upper surface 20 of rotatable member 21 is spaced from the lower surface of top panel 15 to define therewith a gap 16, and accommodates a plurality of wires 24 secured by eyelets or staples 25 leading from a central terminal block 26. Each individual wire 24 terminates in a connector 27 which is not constrained against vertical movement into gap 16, and consists of a material both electrically and magnetically conductive, e.g., soft iron.

Secured to rotatable member or wheel 21 is an arm 30 of like material extending under top panel 15 and beyond the end 17 thereof addressed by the human participant assuming the defensive role. Terminal block 26 has connected thereto and extending therefrom a flexible main wire 28 secured to arm 30 and connected through appropriate eyelets 25 to battery 29 which may consist, as shown, of a pair of flashlight cells 31 (Lechanche cells). Battery 29 is connected by wire 32 to the play-halting indicator 33, which may consist of a lamp, buzzer or other indicia of an unusual situation. Indicator 33, in turn, is grounded through switch 34 to the top panel 15 at 35 (shown schematically in FIGURE 2). Of course, switch 34 could be located between battery 29 and indicator 33 so that, if the latter is a lamp, it

can be directly grounded to panel 15 through the shell of its receptacle.

On one side of top panel 15, various auxiliary devices used in playing the game are indicated. These include the ball-position field 41, completely miniaturized and including the magnetic marker 42 indicating the position of the ball and the magnetic yards-to-first-down marker 43, spinner 44 and circle 45, the various annuli and sectors of which are used with the position of rest of spinner 44 to determine by chance the yardage obtained in kick-offs and punts, the success of an attempted extra point kick, field goals, pass interception runbacks, etc. Also included are slots 48 used for insertion of appropriate markers as shown indicating the names of the opposing teams together with slots 49 for insertion of markers as shown to indicate points accumulated; four numbered surface spaces 50 onto which a magnetic marker 51 is moved to keep track of the quarter of the game being played; and holes 52 indicating the forthcoming down by the position of a peg 53. Top panel 15 is suitably modified in the indicated areas to hold magnetic members 42, 43 and 51 in contact, as by adding small steel plates not shown.

As indicated in FIGURE 1 of the drawing, the surface playing field 2 of the game includes a multiplicity of paths 9 which may be followed by ball carrier 8 after commencing play from his initial position at "X." Ball carrier 8 may pursue any of the paths 9 marked with a solid color (unshaded paths 54 being merely to simulate movements of other offensive backs), may make a forward pass from any of the positions 12 marked with triangles, and may make a lateral pass along any of the dashed paths 10. In making any sort of pass, the action is simulated by lifting ball carrier 8 from the passing position and setting the piece down in the pass receiving position. Such receiving positions are at the ends of the dashed paths 10 for lateral passes, and for forward passes are the sunburst positions 11. A forward pass from any of the positions 12 may be received at any of the receiving positions 11.

The paths 9 and positions 11 and 12 for the ball carrier 8 are keyed to the various defensive postures 18 indicated at the defensive end 17 of the playing surface 2; for instance, selection of the defensive position indicated as "pass defense" will result in a tackle of player 8 behind the line of scrimmage 5 or an incomplete pass, whereas in a different defensive posture (as indicated by the location of arm 30 above the various defense positions 18) may allow a completed pass, possibly even a touchdown. Various structures for constraining the moving player 8 to such paths are possible, varying from a simple rule against lifting player 8 from contact with surface 2 or deviating from the painted paths 9 to an interlock whereby such departures are not possible, but it is noteworthy that the game may be played without use of the prescribed paths so long as the moving player 8 is moving to retain sliding contact with playing surface 2 except when passing. An infinite number of variations are thus possible, and the greater freedom accorded the offensive team 3 by such lack of constraint may be offset by providing a larger number of connectors 27. Paths 9 may also be offset below the level of game surface 2 by appropriately casting or stamping the entire top panel.

FIGURES 2 and 3 illustrate the structure involved in the game, consisting essentially of top panel 15, supporting side rails 13, wheel 21 rotatable on pin 22 and bottom panel 14. Bottom panel 14 is not entirely necessary, as pin 22 may be supported from top panel 15, but conveniently adds structural rigidity. Connectors 27 are shown on the top surface 20 of rotatable member 21 with connecting wires 24, and terminal block 26 and main wire 28.

FIGURE 4 indicates ball carrier 8 engaging a connector 27 in play halting position. Connector 27 consists of a material conductive to electricity and conductive to magnetic flux, though preferably not a permanently magnetizable material. Top panel 15 is composed of an electrically conductive material which is non-magnetic, e.g., aluminum, but it is sufficient if its under surface 19 has such characteristics while the balance of its thickness is non-magnetic. If only surface 19 is electrically conductive, the wire lead from switch 34 is, of course, grounded to the nether surface 19 of top panel 15. When ball carrier 8 is aligned approximately directly over a connector 27, it lifts such connector from its inactivated position 27' shown in phantom and holds it in contact with nether surface 19 of top panel 15, thereby closing the electrical circuit and causing indicator 33 to light or buzz, etc., and bringing the play to a halt.

In playing the game, the defensive player first selects his defensive strategy by moving arm 30 to the desired intersection with one of the defensive positions 18, in the course of which wheel 21 is rotated to bring connectors 27 into divers positions beneath paths 9 over which the defensive players anticipates movement by ball carrier 8. The selected defense is screened from the view of the offensive player by collapsible shield 36. Ordinarily no change in defensive strategy by movement of arm 30 is permitted after the play has commenced, though of course this is largely a matter of rules to be agreed on by the participants.

The kickoff is simulated by flicking the spinner 44, and the ball is advanced the yardage indicated by the final position of the spinner above the appropriate sector and annulus of circle 45. Thereafter the offensive participant moves ball carrier 8 from initial position "X" as indicated above until halted by activation of indicator 33 or until advanced to the defensive end 17 of playing field 2, which indicates a touchdown. Marker 42 on small field 41 is used to indicate the ball position, marker 43 to indicate yardage needed for a first down, and a marker as shown is inserted in one of holes 52 to keep track of the downs.

Assuming no touchdown, the first play after the kick-off runback is commenced by the defensive participant selecting his strategy and thence by the offensive player moving ball carrier 8 over one of the paths 9 until stopped. Play continues in like manner, if no touchrown is obtained, so long as the offensive participant continues to advance 10 yards in each 4 plays following a first down. Should he fail to advance thus, the ball passes to the other side and the human participants change positions. The goals on the score-keeping field 41 remain the same, and the team now in possession of the ball attempts to storm his adversary's position.

The triangles 12 on ball carrier paths 9 are the positions from which ball carrier 8 may initiate a forward pass, simulated by lifting player 8 from such position 12 and setting it down in any of the pass receiving positions 11 marked with sunbursts. Should player 8 be tackled (as indicated by operation of indicator 33) between initial position "X" and one of the passing positions 12, it is a simple tackle with the indicated loss of yardage, whereas a tackle directly on a position 12 may be taken as either a tackle or an attempted but incomplete forward pass, as determined by spinner 44 and wheel 45. A play-halting indication immediately upon setting player 8 in one of the pass-receiving positions 11 may similarly be construed as a tackle immediately upon completing a pass, an intercepted pass, or an incomplete pass. In this event, an annulus of circle 45 may be divided into sectors for tackles, incomplete passes and intercepted passes, the sectors for the latter also indicating the yardage gained in the opposite direction by the intercepting defensive player before being tackled. Of course, after such interception and runback, providid the intercepting player does not score a touchdown, the human participants change roles and reverse the board with respect to themselves.

Lateral passes may be made over any of the dashed paths 10, but only in the directions indicated by the arrows.

Again player 8 is jumped from one position to the other, i.e., the ends of path 10 on adjacent paths 9, and the same rules may be applied as outlined above for forward passes.

It should be noted that in the particular construction shown the playing field 2 is greater than its width, and that rotatable member 21 is extended to cover the difference by adding irregular portion 38 to circular portion 37. One extreme position of both such portions are shown by solid lines in FIGURE 4, together with the like extreme position of arm 30, and the other extreme positions of all such members are shown therein by dashed lines and prime reference characters. Of course, the necessity for an irregular rotatable portion 38 can be largely eliminated by the use of a more nearly square playing field.

Broadly, the present invention comprises a game in which the advance of a moving player providing a magnetic field normal to an electrically conductive but non-magnetic playing surface is interrupted by an indicator in an electrical circuit including such indicator, such surface, and a multiplicity of pivotably mounted connector members disposed beneath such playing surface, such connectors being both magnetically and electrically conductive and normally not in contact with the playing surface but actuable by the field of such moving player to contact such surface to close the electrical circuit and actuate such indicator. Many variations are possible, e.g., providing only electrical strips on the nether surface of the playing field member leading from terminals above each connector to a common connection with the battery terminal (switch and indicator) to close the electrical circuit, hence the invention should not be limited except as in the appended claims.

What is claimed is:

1. A football game including a non-magnetic opaque top panel, a rotatable member mounted therebelow to define therewith a vertical gap, a multiplicity of connector members disposed in said gap for rotation in common with said rotatable member and in spaced relationship from the nether surface of said top panel, each said connector being both electrically and magnetically conductive

and being electrically connected to one end of a normally open series circuit including a battery and indicating means, and a player piece movable across the upper surface of said top panel and providing a magnetic field extending normally therethrough and therebelow, each of said connectors being mounted for vertical movement and being actuable for such movement by said player piece when approximately vertically aligned therebelow to bring said connector into contact with said nether surface, at least the nether surface of said top panel being electrically conductive and connected to the other end of each said series circuit to close the same through the actuated connector, said battery and said indicating means, and said rotatable member including a portion accessible to one of the human participants for rotating said member and thereby repositioning said connectors with respect to said top panel.

2. The game of claim 1 in which said top panel is made of a non-magnetic, electrically conductive material.

3. The game of claim 1 in which the upper surface of said top panel has marked thereon a number of alternate paths which may be pursued by said player piece in moving across the upper surface of said top panel.

4. The game of claim 2 in which the upper surface of said top panel has marked thereon a number of alternate paths which may be pursued by said player piece in moving across the upper surface of said top panel.

5. The game of claim 1 in which said top panel is made primarily of an electrically non-conductive material, the conductive nether surface of said panel being formed by a coating of conductive material.

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